COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY

PIEDMONT REGIONAL OFFICE
4949-A Cox Road, Glen Allen, Virginia 23060
(804) 527-5020 Fax (804) 527-5106
www.deq.virginia.gov

L. Preston Bryant, Jr.
Secretary of Natural Resources

David K. Paylor
Director

Gerard Seeley, Jr.
Regional Director

July 14, 2008

Mr. John Miniclier, Jr.
County Administrator
Charles City County
P.O. Box 128
Charles City, Va. 23030

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

RE: VPDES Permit Reissuance VA0085936
Mt. Zion and Rustic Water Treatment Plant – Charles City County

Dear Mr. Miniclier:

Your VPDES permit is enclosed. A Discharge Monitoring Report (DMR) form is included with the permit. Please make additional copies of the DMR for future use. The first DMR required by this permit for is due on September 10, 2008 for the period of August, 2008. If you still have DMR data to report as required by the previous permit please submit it as an attachment to the first DMR required by this permit. Monitoring results on the DMRs should be reported to the same number of significant digits as are included in the permit limit for the parameter. Please send DMRs to:

Virginia DEQ, Piedmont Regional Office
4949-A Cox Road
Glen Allen, Virginia 23060

We discussed with your staff that this permit contains a more stringent limit for TDS and new limits for other parameters that become effective in 4 years in accordance with a schedule of compliance. Your staff expressed interest in discussing with DEQ staff the design of a test plan during the compliance period to show that one or more of the new limits may be removed subject to a major permit modification. Please initiate those discussions with the permit representative noted at the end of this letter.

Note that DEQ has launched an e-DMR program that allows you to submit the effluent data electronically. If you are interested in participating in this program please visit the following website for details:

http://www.deq.virginia.gov/water/edmrfaq.html

As provided by Rule 2A:2 of the Supreme Court of Virginia, you have thirty days from the date of service (the date you actually received this decision or the date it was mailed to you, whichever occurred first) within which to appeal this decision by filing a notice of appeal in accordance with the

Rules of the Supreme Court of Virginia with the Director, Department of Environmental Quality. In the event that this decision is served on you by mail, three days are added to that period.

Alternatively, any owner under § 62.1-44.16, 62.1-44.17 and 62.1-44.19 of the State Water Control Law aggrieved by any action of the State Water Control Board taken without a formal hearing, or by inaction of the Board, may demand in writing a formal hearing of such owner's grievance, provided a petition requesting such hearing is filed with the Board. Said petition must meet the requirements set forth in 9 VAC 25-230-130.B. In cases involving actions of the Board, such petition must be filed within thirty days after notice of such action is mailed to such owner by certified mail.

If you have any questions about the permit, please contact Denise Mosca at (804) 527-5027 or dmmosca@deq.virginia.gov.

Sincerely,

Curtis J. Linderman, P.E.
Water Permits Manager

Enclosure: Memorandum
Permit No. VA0085936

cc: OWPS
EPA, Region III-3WP12
VDH-ECEFO

MEMORANDUM

DEPARTMENT OF ENVIRONMENTAL QUALITY
Piedmont Regional Office

4949-A Cox Road, Glen Allen, VA 23060 **804/527-5020**

SUBJECT: Reissuance to VPDES Permit No. VA0085936
Mt. Zion and Rustic WTP – Charles City County, Virginia

TO: C. J. Linderman, P.E., Water Permit Manager

FROM: Denise M. Mosca, Permit Writer

DATE: July 9, 2008

COPIES: PRO-OWPP, EPA-Region III-3 WP12

Legal Name of Owner: Charles City County

Application Submitted By: John Miniclier, County Administrator

Application Date: Initial application was submitted on October 5, 2007. Date of complete application: March 14, 2008.

Permit Fee: Charles City County was not included on the latest FY08-Water-AMF-Past Due spreadsheet as of 6-26-08 as not being current with permit fees.

Type of Discharge: The water treatment plant discharges 9,000 gallons per day of concentrate from a reverse osmosis system.

Wastewater Treatment: None.

Receiving Stream:

Stream: Morris Creek
Basin: James River (lower)
Subbasin: N/A
Section: 1
Class: II
Special Standard: a

Public Notice: The application and draft permit have received public notice in accordance with the Permit Regulation and no comments were received

COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY

Permit No. VA0085936

Effective Date: July 14, 2008
Expiration Date: July 13, 2013

AUTHORIZATION TO DISCHARGE UNDER THE
VIRGINIA POLLUTANT DISCHARGE ELIMINATION SYSTEM
AND
THE VIRGINIA STATE WATER CONTROL LAW

In compliance with the provisions of the Clean Water Act as amended and pursuant to the State Water Control Law and regulations adopted pursuant thereto, the following owner is authorized to discharge in accordance with the information submitted with the permit application, and with this permit cover page, Part I - Effluent Limitations and Monitoring Requirements, and Part II - Conditions Applicable To All VPDES Permits, as set forth herein.

Owner:	Charles City County
Facility Name:	Mt. Zion and Rustic Water Treatment Plant
County:	Charles City
Facility Location:	13400 Willcox Neck Rd. (Rt. 623), Charles City County

The owner is authorized to discharge to the following receiving stream:

Stream:	Morris Creek
River Basin:	James River (Lower)
River Subbasin:	N/A
Section:	1
Class:	II
Special Standards:	a

Water Permit Manager, Piedmont Regional Office

7/14/08
Date

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period beginning with the permit's effective date and lasting until the permit's expiration date, the permittee is authorized to discharge from outfall number 001. Such discharges shall be limited and monitored by the permittee as specified below:

EFFLUENT CHARACTERISTICS	DISCHARGE LIMITATIONS				MONITORING REQUIREMENTS	
	MONTHLY AVG.	WEEKLY AVG.	MINIMUM	MAXIMUM	FREQUENCY	SAMPLE TYPE
Flow (MGD)	NL	NA	NA	NL	1/ Month	Estimate
pH (standard units)	NA	NA	6.0	9.0	1/ Month	Grab
Total Dissolved Solids[b] (mg/l)	2500	NA	NA	2500	1/ Month	Grab
Total Recoverable Zinc[a] (ug/l)	31	NA	NA	31	1/ Quarter	Grab
Total Recoverable Chromium VI[a, b] (ug/l)	8.0	NA	NA	8.0	1/ Quarter	Grab
Total Recoverable Mercury[a,b] (ug/l)	0.26	NA	NA	0.26	1/ Quarter	Grab
Ammonia-N[a] (mg/l)	1.1	NA	NA	1.1	1/ Quarter	Grab

NL = No Limitation, monitoring only
NA = Not Applicable

a. Effluent monitoring and reporting required upon effective date of permit. See Part I.B. for Schedule of Compliance.
b. Limitation is expressed as 2 significant digits.

2. See Part I.C.5. for quantification levels and reporting requirements, respectively.
3. There shall be no discharge of floating solids or visible foam in other than trace amounts.

PERMITTEE NAME/ADDRESS(INCLUDE FACILITY NAME/LOCATION IF DIFFERENT)

NAME Mt Zion Rustic WTP
ADDRESS PO Box 128
Charles City VA 23030
FACILITY LOCATION

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF ENVIRONMENTAL QUALITY
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM(NPDES)
DISCHARGE MONITORING REPORT(DMR)

Industrial Minor 07/09/2008

DEPT. OF ENVIRONMENTAL QUALITY (REGIONAL OFFICE)
Piedmont Regional Office
4949-A Cox Road
Glen Allen VA 23060

NOTE: READ PERMIT AND GENERAL INSTRUCTIONS BEFORE COMPLETING THIS FORM.

VA0085936	001
PERMIT NUMBER	DISCHARGE NUMBER

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
FROM				TO			

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX.	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM	UNITS			
001 FLOW	REPORTD										
	REQRMNT	NL	NL	MG						1/M	EST
002 PH	REPORTD	*********	*********			*********					
	REQRMNT	*********	*********		6.0	*********	9.0	SU		1/M	GRAB
039 AMMONIA, AS N	REPORTD	*********	*********		*********						
	REQRMNT	*********	*********		*********	NL	NL	MG/L		1/3M	GRAB
089 DIS. SOLIDS, TOTAL	REPORTD	*********	*********		*********						
	REQRMNT	*********	*********		*********	2500	2500	MG/L		1/M	GRAB
196 ZINC, TOTAL RECOVERABLE	REPORTD	*********	*********		*********						
	REQRMNT	*********	*********		*********	NL	NL	UG/L		1/3M	GRAB
235 MERCURY, TOTAL RECOVERABLE	REPORTD	*********	*********		*********						
	REQRMNT	*********	*********		*********	NL	NL	UG/L		1/3M	GRAB
314 CHROMIUM, HEXAVALENT TOTAL RECOVERABLE	REPORTD	*********	*********		*********						
	REQRMNT	*********	*********		*********	NL	NL	UG/L		1/3M	GRAB
	REPORTD										
	REQRMNT									*******	

ADDITIONAL PERMIT REQUIREMENTS OR COMMENTS

BYPASSES AND OVERFLOWS	TOTAL OCCURRENCES	TOTAL FLOW(M.G.)	TOTAL BOD5(K.G.)

I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHER AND EVALUATE THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS TO THE BEST OF MY KNOWLEDGE AND BELIEF TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS. SEE 18 U.S.C. & 1001 AND 33 U.S.C. & 1319. (Penalties under these statutes may include fines up to $10,000 and/or maximum imprisonment of between 6 months and 5 years.)

OPERATOR IN RESPONSIBLE CHARGE			DATE		
TYPED OR PRINTED NAME	SIGNATURE	CERTIFICATE NO.	YEAR	MO.	DAY
PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT		TELEPHONE			
TYPED OR PRINTED NAME	SIGNATURE		YEAR	MO.	DAY

THIS REPORT IS REQUIRED BY LAW (33 U. S. C. § 1318 40 CFR 122.41(l)(4)(i)). FAILURE TO REPORT OR FAILURE TO REPORT TRUTHFULLY CAN RESULT IN CIVIL PENALTIES NOT TO EXCEED $10,000 PER DAY OF VIOLATION: OR IN CRIMINAL PENALTIES NOT TO EXCEED $25,000 PER DAY OF VIOLATION OR BY IMPRISONMENT FOR NOT MORE THAN FIVE YEARS, OR BOTH.

GENERAL INSTRUCTIONS

1. Complete this form in permanent ink or indelible pencil.
2. Be sure to enter the dates for the first and last day of the period covered by the report on the form in the space marked "Monitoring Period".
3. For those parameters where the "permit requirement" spaces are blank or a limitation appears, provide data in the "reported" spaces in accordance with your permit.
4. Enter the average and, if appropriate, maximum quantities and units in the "reported" spaces in the columns marked "Quantity or Loading". KG/DAY = Concentration(mg/l) x Flow(MGD) x 3.785.
5. Enter maximum, minimum, and/or average concentrations and units in the "reported" spaces in the columns marked "Quality or Concentration".
6. Enter the number of samples which do not comply with the maximum and /or minimum permit requirements in the "reported" space in the column marked "No. Ex.".
7. Enter the actual frequency of analysis for each parameter (number of times per day, week, month) in the "reported" space in the column marked "Frequency of Analysis".
8. Enter the actual type of sample collected for each parameter in the "reported" space in the column marked "Sample Type".
9. Enter additional required data or comments in the space marked "additional permit requirements or comments".
10. Record the number of bypasses during the month, the total flow in million gallons and BOD5 in kilograms in the proper columns in the section marked "Bypasses and Overflows".
11. The operator in responsible charge of the facility should review the form and sign in the space provided. If the plant is required to have a licensed operator, the operator's certificate number should be reported in the space provided.
12. The principal executive officer should then review the form and sign in the space provided and provide a telephone number where he/she can be reached.
13. You are required to sample at the frequency and type indicated in your permit.
14. Send the completed form to your Dept. of Environmental Quality Regional Office by the 10th of each month.
15. You are required to retain a copy of the report for your records.
16. Where violations of permit requirements are reported, attach a brief explanation in accordance with the permit requirements describing causes and corrective actions taken. Reference each violation by date.
17. If you have any questions, contact the Dept. of Environmental Quality Regional Office.

B. Compliance Schedule

The permittee shall achieve compliance with the final limits and monitoring requirements for Total Recoverable Zinc, Total Recoverable Chromium VI, Total Recoverable Mercury, and Ammonia-N at 001 as specified in this permit in accordance with the following schedule:

1. Submit progress reports to DEQ	**Annually, after the effective date of permit reissuance.**
2. Achieve Compliance with Effluent Limitations.	**Within 4 years of the effective date of permit reissuance**.

In accordance with the dates identified in the above schedule of compliance, the permittee shall submit to the Piedmont Regional Office either a report of progress, or, in the case of specific actions being required by identified dates, a written notice of compliance or noncompliance. In the latter case, the notice shall include the cause of noncompliance, any remedial actions taken, and the probability of meeting the next scheduled requirement.

C. Other Requirements or Special Conditions

1. The permittee shall notify the Department as soon as they know or have reason to believe:
   a. That any activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant which is not limited in this permit, if that discharge will exceed the highest of the following "notification levels":
      (1) One hundred micrograms per liter (100 ug/l);
      (2) Two hundred micrograms per liter (200 ug/l) for acrolein and acrylonitrile; five hundred micrograms per liter (500 ug/l) for 2, 4-dinitrophenol and for 2-methyl-4, 6-dinitrophenol; and one milligram per liter (1 mg/l) for antimony;
      (3) Five (5) times the maximum concentration value reported for the pollutant in the permit application; or
      (4) The level established by the Board.

   b. That any activity has occurred or will occur which would result in any discharge on a non-routine or infrequent basis of a toxic pollutant which is not limited in the permit if that discharge will exceed the highest of the following "notification levels":

      (1) Five hundred micrograms per liter (500 ug/l);
      (2) One milligram per liter (1 mg/l) for antimony;
      (3) Ten (10) times the maximum concentration value reported for that pollutant in the permit application; or
      (4) The level established by the Board.

2. The permittee shall review the existing Operations and Maintenance (O&M) Manual, and, within 90 days of the effective date of the permit notify the Piedmont Regional Office of the DEQ (DEQ-PRO), in writing, whether it is still accurate and complete. If the O&M manual is no longer accurate and complete, a revised O&M Manual shall be submitted for approval to the DEQ –PRO within 90 days of the effective date of this permit. The permittee shall maintain an accurate, approved O&M Manual for the treatment works. This manual shall detail the practices and procedures which will be followed to ensure compliance with the requirements of the permit. The permittee shall operate the treatment works in accordance with the approved O&M Manual. This manual shall include, but not necessarily be limited to, the following items, as appropriate:

a. Techniques to be employed in the collection, preservation, and analysis of effluent samples (and sludge samples if sludge analyses are required);
b. Discussion of Best Management Practices, if applicable;
c. Treatment works design, treatment works operation, routine preventative maintenance of units within the treatment works, critical spare parts inventory and record keeping;
d. Procedures for handling, storing, and disposing of all wastes, fluids and pollutants characterized in Part I.C.3 that will prevent these materials from reaching state waters;
e. A plan for the management and/or disposal of waste solids and residues; and
f. Procedures for measuring and recording the duration and volume of treated wastewater discharged.

Any changes in the practices and procedures followed by the permittee shall be documented and submitted for staff approval within 90 days of the effective date of the changes. Upon approval of the submitted manual changes, the revised manual becomes an enforceable part of the permit. Noncompliance with the O&M Manual shall be deemed a violation of the permit.

3. Any and all product, materials, industrial wastes, and/or other wastes resulting from the purchase, sale, mining, extraction, transport, preparation, and/or storage of raw or intermediate materials, final product, by-product or wastes, shall be handled, disposed of, and/or stored in such a manner so as not to permit a discharge of such product, materials, industrial wastes, and/or other wastes to State waters, except as expressly authorized.

4. If the permittee plans an expansion or upgrade to replace the existing treatment works, or if the facility is permanently closed, the permittee shall submit to the DEQ a closure plan for the existing treatment works. The plan shall address liquid and sludge removal, odor control measures, structure and pipe removal, steps to prevent unauthorized access, fill materials and final grading and seeding. The plan should contain proposed dates for beginning and completion of the work. The plan must be approved by the DEQ prior to implementation. The permittee may continue discharging until the effluent no longer meets the permit limits, or the permit expires or is terminated, whichever comes first.

5. Compliance Reporting

a. The maximum quantification levels (QL) shall be as follows:

Effluent Characteristic	Quantification Level
Ammonia-N	0.20 mg/l
Total Recoverable Zinc	13 ug/l
Total Recoverable Chromium VI	3.2 ug/l
Total Recoverable Mercury	1.0 ug/l

b. Reporting

Monthly Average -- Compliance with the monthly average limitations and/or reporting requirements for the parameters listed in a. above shall be determined as follows: All concentration data below the QL listed in a. above shall be treated as zero. All concentration data equal to or above the QL listed in a. above shall be treated as it is reported. An arithmetic average shall be calculated using all reported data for the month,

including the defined zeros. This arithmetic average shall be reported on the Discharge Monitoring Report (DMR) as calculated. If all data are below the QL, then the average shall be reported as "<QL". If reporting for quantity is required on the DMR and the calculated concentration is "<QL", then report "<QL" for the quantity. Otherwise use the concentration data and flow data for each sample day to determine the daily quantity and report the average of the calculated daily quantities.

Daily Maximum – Compliance with the daily maximum limitations and/or reporting requirements for the parameters listed in a. above shall be determined as follows: All concentration data below the QL listed in a. above shall be treated as zero. All concentration data equal to or above the QL listed in a. above shall be treated as reported. An arithmetic average shall be calculated using all reported data, including the defined zeros, collected within each day during the reporting month. The maximum value of these daily averages thus determined shall be reported on the DMR as the Daily Maximum. If all data are below the QL, then the maximum value of the daily averages shall be reported as "<QL". If reporting for quantity is required on the DMR and the calculated daily maximum is "<QL", then report "<QL" for the quantity. Otherwise use the daily average concentrations and corresponding daily flows to determine daily average quantities and report the maximum of the daily average quantities.

c. Any single datum required shall be reported as "<QL" if it is less than the QL in section a. above. Otherwise the numerical value shall be reported.

d. **Significant Digits --** The permittee shall report at least the same number of significant digits as the permit limit for a given parameter. Regardless of the rounding convention used by the permittee (i.e., 5 always rounding up or to the nearest even number), the permittee shall use the convention consistently, and shall ensure that consulting laboratories employed by the permittee use the same convention.

6. This permit shall be modified or alternatively revoked and reissued if any approved waste-load allocation procedure, pursuant to Section 303(d) of the Clean Water Act, imposes wasteload allocations, limits or conditions on the facility that are not consistent with the permit requirements.

CONDITIONS APPLICABLE TO ALL VPDES PERMITS

A. Monitoring

1. Samples and measurements taken as required by this permit shall be representative of the monitored activity.

2. Monitoring shall be conducted according to procedures approved under Title 40 Code of Federal Regulations Part 136 or alternative methods approved by the U.S. Environmental Protection Agency, unless other procedures have been specified in this permit.

3. The permittee shall periodically calibrate and perform maintenance procedures on all monitoring and analytical instrumentation at intervals that will insure accuracy of measurements.

B. Records

1. Records of monitoring information shall include:

   a. The date, exact place, and time of sampling or measurements;
   b. The individual(s) who performed the sampling or measurements;
   c. The date(s) and time(s) analyses were performed;
   d. The individual(s) who performed the analyses;
   e. The analytical techniques or methods used; and
   f. The results of such analyses.

2. Except for records of monitoring information required by this permit related to the permittee's sewage sludge use and disposal activities, which shall be retained for a period of at least five years, the permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least 3 years from the date of the sample, measurement, report, or application. This period of retention shall be extended automatically during the course of any unresolved litigation regarding the regulated activity or regarding control standards applicable to the permittee, or as requested by the Board.

C. Reporting Monitoring Results

1. The permittee shall submit the results of the monitoring required by this permit not later than the 10th day of the month after monitoring takes place, unless another reporting schedule is specified elsewhere in this permit. Monitoring results shall be submitted to:

   Piedmont Regional Office
   4949-A Cox Road
   Glen Allen, Virginia 23060-6296

2. Monitoring results shall be reported on a Discharge Monitoring Report (DMR) or on forms provided, approved, or specified by the Department.

3. If the permittee monitors any pollutant specifically addressed by this permit more frequently than required by this permit using test procedures approved under Title 40 of the Code of Federal Regulations Part 136 or using other test procedures approved by the U.S. Environmental Protection Agency or using procedures specified in this permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR or reporting form specified by the Department.

4. Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified in this permit.

D. Duty to Provide Information

The permittee shall furnish to the Department, within a reasonable time, any information which the Board may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. The Board may require the permittee to furnish, upon request, such plans, specifications, and other pertinent information as may be necessary to determine the effect of the wastes from his discharge on the quality of state waters, or such other information as may be necessary to accomplish the purposes of the State Water Control Law. The permittee shall also furnish to the Department upon request, copies of records required to be kept by this permit.

E. Compliance Schedule Reports

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date.

F. Unauthorized Discharges

Except in compliance with this permit, or another permit issued by the Board, it shall be unlawful for any person to:

1. Discharge into state waters sewage, industrial wastes, other wastes, or any noxious or deleterious substances; or

2. Otherwise alter the physical, chemical, or biological properties of such state waters and make them detrimental to the public health, or to animal or aquatic life, or to the use of such waters for domestic or industrial consumption, or for recreation, or for other uses.

G. Reports of Unauthorized Discharges

Any permittee who discharges or causes or allows a discharge of sewage, industrial waste, other wastes or any noxious or deleterious substance into or upon state waters in violation of Part II F; or who discharges or causes or allows a discharge that may reasonably be expected to enter state waters in violation of Part II.F, shall notify the Department of the discharge immediately upon discovery of the discharge, but in no case later than 24 hours after said discovery. A written report of the unauthorized discharge shall be submitted to the Department within five days of discovery of the discharge. The written report shall contain:

1. A description of the nature and location of the discharge;
2. The cause of the discharge;
3. The date on which the discharge occurred;
4. The length of time that the discharge continued;
5. The volume of the discharge;
6. If the discharge is continuing, how long it is expected to continue;
7. If the discharge is continuing, what the expected total volume of the discharge will be; and
8. Any steps planned or taken to reduce, eliminate, and prevent a recurrence of the present discharge or any future discharges not authorized by this permit.

Discharges reportable to the Department under the immediate reporting requirements of other regulations are exempted from this requirement.

H. Reports of Unusual or Extraordinary Discharges

If any unusual or extraordinary discharge including a bypass or upset should occur from a treatment works and the discharge enters or could be expected to enter state waters, the permittee shall promptly notify, in no case later than 24 hours, the Department by telephone after the discovery of the discharge. This notification shall provide all available details of the incident, including any adverse affects on aquatic life and the known number of fish killed.
The permittee shall reduce the report to writing and shall submit it to the Department within five days of discovery of the discharge in accordance with Part II.I.2. Unusual and extraordinary discharges include but are not limited to any discharge resulting from:

1. Unusual spillage of materials resulting directly or indirectly from processing operations;
2. Breakdown of processing or accessory equipment;
3. Failure or taking out of service some or all of the treatment works; and
4. Flooding or other acts of nature.

I. Reports of Noncompliance

The permittee shall report any noncompliance which may adversely affect state waters or may endanger public health.

1. An oral report shall be provided within 24 hours from the time the permittee becomes aware of the circumstances. The following shall be included as information which shall be reported within 24 hours under this paragraph:

   a. Any unanticipated bypass; and
   b. Any upset which causes a discharge to surface waters.

2. A written report shall be submitted within 5 days and shall contain:

   a. A description of the noncompliance and its cause;
   b. The period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and
   c. Steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance.

   The Board may waive the written report on a case-by-case basis for reports of noncompliance under Part II.I if the oral report has been received within 24 hours and no adverse impact on state waters has been reported.

3. The permittee shall report all instances of noncompliance not reported under Parts II.I.1 or 2, in writing, at the time the next monitoring reports are submitted. The reports shall contain the information listed in Part II.I.2.

NOTE: The immediate (within 24 hours) reports required in Parts II.G, H, and I may be made to the Department's Regional Office at (804) 527-5020 (voice) or (804) 527-5106 (facsimile). For reports outside normal working hours, leave a message and this shall fulfill the immediate reporting requirement. For emergencies, the Virginia Department of Emergency Services maintains a 24 hour telephone service at 1-800-468-8892.

J. Notice of Planned Changes

1. The permittee shall give notice to the Department as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required only when:

   a. The permittee plans alteration or addition to any building, structure, facility, or installation from

which there is or may be a discharge of pollutants, the construction of which commenced:

(1) After promulgation of standards of performance under Section 306 of the Clean Water Act which are applicable to such source; or

(2) After proposal of standards of performance in accordance with Section 306 of the Clean Water Act which are applicable to such source, but only if the standards are promulgated in accordance with Section 306 within 120 days of their proposal;

b. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations nor to notification requirements specified elsewhere in this permit; or

c. The alteration or addition results in a significant change in the permittee's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan.

2. The permittee shall give advance notice to the Department of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

K. Signatory Requirements

1. Applications. All permit applications shall be signed as follows:

a. For a corporation: By a responsible corporate officer. For the purpose of this section, a responsible corporate officer means: (i) A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or (ii) the manager of one or more manufacturing, production, or operating facilities, provided the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;

b. For a partnership or sole proprietorship: By a general partner or the proprietor, respectively; or

c. For a municipality, state, federal, or other public agency: By either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a public agency includes: (i) The chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency.

2. Reports, etc. All reports required by permits and other information requested by the Board shall be signed by a person described in Part II.K.1, or by a duly authorized representative of that person. A person is a duly authorized representative only if:

a. The authorization is made in writing by a person described in Part II.K.1;
b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly

authorized representative may thus be either a named individual or any individual occupying a named position.); and

c. The written authorization is submitted to the Department.

3. Changes to authorization. If an authorization under Part II.K.2 is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of Part II.K.2 shall be submitted to the Department prior to or together with any reports, or information to be signed by an authorized representative.

4. Certification. Any person signing a document under Parts II.K.1 or 2 shall make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

L. Duty to Comply

The permittee shall comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the State Water Control Law and the Clean Water Act, except that noncompliance with certain provisions of this permit may constitute a violation of the State Water Control Law but not the Clean Water Act. Permit noncompliance is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application.

The permittee shall comply with effluent standards or prohibitions established under Section 307(a) of the Clean Water Act for toxic pollutants and with standards for sewage sludge use or disposal established under Section 405(d) of the Clean Water Act within the time provided in the regulations that establish these standards or prohibitions or standards for sewage sludge use or disposal, even if this permit has not yet been modified to incorporate the requirement.

M. Duty to Reapply

If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee shall apply for and obtain a new permit. All permittees with a currently effective permit shall submit a new application at least 180 days before the expiration date of the existing permit, unless permission for a later date has been granted by the Board. The Board shall not grant permission for applications to be submitted later than the expiration date of the existing permit.

N. Effect of a Permit

This permit does not convey any property rights in either real or personal property or any exclusive privileges, nor does it authorize any injury to private property or invasion of personal rights, or any infringement of federal, state or local law or regulations.

O. State Law

Nothing in this permit shall be construed to preclude the institution of any legal action under, or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any other state law or regulation or under authority preserved by Section 510 of the Clean Water Act. Except as provided in permit conditions on "bypassing" (Part II.U), and "upset" (Part II.V) nothing in this permit shall be

construed to relieve the permittee from civil and criminal penalties for noncompliance.

P. Oil and Hazardous Substance Liability

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under Sections 62.1-44.34:14 through 62.1-44.34:23 of the State Water Control Law.

Q. Proper Operation and Maintenance

The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes effective plant performance, adequate funding, adequate staffing, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by the permittee only when the operation is necessary to achieve compliance with the conditions of this permit.

R. Disposal of Solids or Sludges

Solids, sludges, or other pollutants removed in the course of treatment or management of pollutants shall be disposed of in a manner so as to prevent any pollutant from such materials from entering state waters.

S. Duty to Mitigate

The permittee shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

T. Need to Halt or Reduce Activity not a Defense

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

U. Bypass

1. "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility. The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of Parts II.U.2 and U.3.

2. Notice

   a. Anticipated bypass. If the permittee knows in advance of the need for a bypass, prior notice shall be submitted, if possible at least ten days before the date of the bypass.
   b. Unanticipated bypass. The permittee shall submit notice of an unanticipated bypass as required in Part II.I.

3. Prohibition of bypass

   a. Bypass is prohibited, and the Board may take enforcement action against a permittee for bypass, unless:

      (1) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;

(2) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and

(3) The permittee submitted notices as required under Part II.U.2.

b. The Board may approve an anticipated bypass, after considering its adverse effects, if the Board determines that it will meet the three conditions listed above in Part II.U.3.a.

V. Upset

1. An upset constitutes an affirmative defense to an action brought for noncompliance with technology based permit effluent limitations if the requirements of Part II.V.2 are met. A determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is not a final administrative action subject to judicial review.

2. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:

   a. An upset occurred and that the permittee can identify the cause(s) of the upset;
   b. The permitted facility was at the time being properly operated;
   c. The permittee submitted notice of the upset as required in Part II.I; and
   d. The permittee complied with any remedial measures required under Part II.S.

3. In any enforcement proceeding the permittee seeking to establish the occurrence of an upset has the burden of proof.

W. Inspection and Entry

The permittee shall allow the Director, or an authorized representative, upon presentation of credentials and other documents as may be required by law, to:

1. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;

2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

3. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and

4. Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the Clean Water Act and the State Water Control Law, any substances or parameters at any location.

For purposes of this section, the time for inspection shall be deemed reasonable during regular business hours, and whenever the facility is discharging. Nothing contained herein shall make an inspection unreasonable during an emergency.

X. Permit Actions

Permits may be modified, revoked and reissued, or terminated for cause. The filing of a request by the

permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition.

Y. Transfer of permits

1. Permits are not transferable to any person except after notice to the Department. Except as provided in Part II.Y.2, a permit may be transferred by the permittee to a new owner or operator only if the permit has been modified or revoked and reissued, or a minor modification made, to identify the new permittee and incorporate such other requirements as may be necessary under the State Water Control Law and the Clean Water Act.

2. As an alternative to transfers under Part II.Y.1, this permit may be automatically transferred to a new permittee if:

   a. The current permittee notifies the Department at least 30 days in advance of the proposed transfer of the title to the facility or property;
   b. The notice includes a written agreement between the existing and new permittees containing a specific date for transfer of permit responsibility, coverage, and liability between them; and
   c. The Board does not notify the existing permittee and the proposed new permittee of its intent to modify or revoke and reissue the permit. If this notice is not received, the transfer is effective on the date specified in the agreement mentioned in Part II.Y.2.b.

Z. Severability

The provisions of this permit are severable, and if any provision of this permit or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

VPDES PERMIT FACT SHEET

This document gives pertinent information concerning the reissuance of the VPDES permit listed below. This permit is being processed as a minor industrial permit. The effluent limitations contained in this permit will maintain the Water Quality Standards of 9 VAC 25-260 et seq. The discharges result from the operation of the water treatment plant that serves the Mt. Zion and Rustic communities of Charles City County. This permit action consists of the addition of new limits on a schedule of compliance and updating special conditions.

1. Facility Name and Address: Mt. Zion and Rustic Water Treatment Plant
   P.O. Box 128
   Charles City, Va. 23030

   Owner Name and Address: Charles City County, P.O. Box 128, Charles City, Va. 23030

   Location: 13400 Willcox Neck Rd. (Rt. 623), Charles City County

2. Permit No. VA0085936 Expiration Date: 26 September, 2007

3. Owner Contact: John Miniclier, Jr., formerly Director of Public Works, now Co. Administrator
   (804) 652-4701

4.

Application Complete Date:	3-14-08	
DEQ Regional Office:	Piedmont Regional Office	
Permit Drafted By:	Denise Mosca	Date: January 28, 2008
Reviewed By:	E. Carpenter	Date: February 19, 2008
Reviewed By:	Ray Jenkins	Date: March 14, 2008, April 15, 2008

5. Receiving Waters Classification:

River Mile:	2-MOC-004.49
Receiving Stream:	Morris Creek
Basin:	James River (lower)
Subbasin:	N/A
Section:	1
Class:	II
Special Standards:	a

7-Day, 10-Year Low Flow: NA – tidal
1-Day, 10-Year Low Flow: NA – tidal
30Q5: NA – tidal; Harmonic Mean: NA – tidal

6. Licensed Operator Requirements: None

7. Reliability Class: None
8. Permit Characterization:
   (x) Reissuance
   (x) Publicly owned
   (x) Industrial
   SIC Code(s) 4941
   (x) Existing Discharge
   (x) Water Quality Limited
   (x) 303(d) listed

9. Attach a schematic of the Wastewater Treatment System, and provide a general description of the facility.

   See **Attachment A,** and Table I, below.

OUTFALL	DISCHARGE SOURCE	TREATMENT DESCRIPTION	DESIGN FLOW
001	Concentrate from Reverse Osmosis system	None	0.009 MGD

10. Discharge Location Description: Topo Name: Brandon, Va. Number: 97C See **Attachment B**

11. Sewage Sludge Use or Disposal: NA. There are no sewage facilities at the plant.

12. Material Storage: Materials stored at the site include Sulfuric Acid, Chlorine, Zinc Orthophosphate and an Anti-Scalent (AF-600). Materials are all in original containers and are connected to automatic feed equipment. The Sulfuric Acid, Chlorine, Zinc Orthophosphate are in 15 gal. containers and the Anti-Scalent (AF-600) is contained in a 5 gallon container. Only the containers in use are kept at the site. The tightly covered containers are located outside on a concrete slab.

13. Ambient Water Quality Information: Morris Creek is tidally influenced at the discharge location. In the 2006 305(b)/303(d) Integrated Report, the tidal portion of Morris Creek was assessed as a Category 5A water. During the 2006 cycle, the Chesapeake Bay Water Quality Standards were adopted. The oligohaline Chickahominy River estuary, which includes Morris Creek, failed both the Shallow Water Use's Submerged Aquatic Vegetation acreage criteria and the Open Water Use's 30-day summer dissolved oxygen criteria. In addition, the segment is considered fully supporting with observed effects for Fish Consumption Use because it is included in the VDH Fish Consumption Advisory regarding potential kepone contamination in fish tissue. See Attachment C for 305(b) fact sheets.

14. Antidegradation Review & Comments: Tier 1 _ Tier 2 _x_ Tier 3 __
The State Water Control Board's Water Quality Standards includes an antidegradation policy (9 VAC 25-260-30).

All state surface waters are provided one of three levels of antidegradation protection. For Tier 1 or existing use protection, existing uses of the water body and the water quality to protect these uses must be maintained. Tier 2 water bodies have water quality that is better than the water quality standards. Significant lowering of the water quality of Tier 2 waters is not allowed without an evaluation of the economic and social impacts. Tier 3 water bodies are exceptional waters and are so designated by regulatory amendment. The antidegradation policy prohibits new or expanded discharges into exceptional waters.

The antidegradation review begins with a Tier determination. Morris Creek is considered to be Tier 2. (**Attachment C**). The limitations in this permit were developed in accordance with § 303(d)(4) of the Clean Water Act. Therefore, antidegradation restrictions do not apply.

15. Site Inspection: Date November 6, 2007 Performed by: Denise Mosca **(Attachment D).**

16. Effluent Screening & Limitation Development: **(Attachment E)**

- An effluent limitation for pH was established in previous permits from the water quality standards and is proposed for being continued at 001 as DEQ has no reason to believe the limitation does not adequately characterize the discharge.

- The facility does not discharge chlorine from the R.O. concentrate, so a chlorine limit was not evaluated. The need for a cadmium limit was ruled out upon examination of the total cadmium data. The result of <0.2 ug/l was less than an acceptable quantification level (QL), so it is considered not present for the purpose of this evaluation. In accordance with DEQ guidance, it is permissible to rule out the need for a limit using total metals data.

- The ammonia data provided yielded a limit when evaluated with Stats.exe. It will become effective upon a 4-year schedule of compliance.

- Using the total metals data and an assumed hardness of 25 mg/l (which will produce the most stringent limits), the need for limits for copper, lead, zinc, mercury and chromium were evaluated using the laboratory provided quantification limit. Because the STATS.exe program found limits for these parameters to be necessary, it was necessary to ask the permittee to resample for dissolved metals. DEQ guidance does not allow for metals limits to be assigned based on total metals data. The permittee was asked to provide a current hardness sample result.

- The permittee supplied dissolved data for copper, mercury, chromium III, hexavalent chromium, lead and zinc. The effluent hardness supplied by the permittee of 42 mg/l was used in the calculation of wasteload allocations. The mercury result provided was a quantifiable result and exceeded the controlling human health wasteload allocation of 0.26 ug/l. A limit of 0.26 ug/l is therefore recommended. The results for copper, chromium III, hexavalent chromium, lead and zinc were less than their respective laboratory determined QLs. In these cases, the lab's QL values (which were higher than those requested by DEQ, and greater than the Site Specific Target Values (SSTV)) were entered into the STATS program. Limits were found to be necessary for copper, hexavalent chromium, and zinc. DEQ staff contacted the laboratory about their Method Detection Limits (MDLs) for these parameters in an effort to determine if these would provide additional information as to whether the metals were present or not. The MDL is the lowest quantity of a substance that can be distinguished from the absence of that substance. Greg Hudson of Universal Labs on January 23, 2008 provided the following MDLs: copper 0.62 ug/l, hexavalent chromium 9.0 ug/l, and zinc 14 ug/l. Because the copper MDL is less than the requested QL and the site specific target value, this parameter is considered to be absent for the purpose of this evaluation. Since the MDL values exceeded site specific target values for zinc and hexavalent chromium, indicating the presence of the metals at levels that exceeded water quality standards, it was necessary to impose limits for these parameters using the STATS.exe program. The limits will be in the total recoverable form and will become effective upon a 4-year schedule of compliance. Until the compliance date, the permittee is required to monitor these metals and ammonia quarterly. Quarterly sampling should provide enough information for this small facility during the compliance period for evaluation without being overly burdensome for the permittee. This frequency can be re-evaluated at the next permit reissuance for the need to go to 1/month sampling.

Table II. Metals with Less-Than Results Exceeding the Suggested QL

Parameter	Data ug/l	MDL ug/l	SSTV ug/l	QL ug/l
Cu, Diss.	<2	0.62	1.3	1
Cr VI, Diss.	<10	9	3.2	0.5
Zn, Diss.	<20	14.1	13	2

- The TSS result provided was low (<1.0 mg/l), which is in accordance with DEQ guidance that states that Reverse Osmosis plants cannot operate with a source water high in TSS so a limit is not necessary. In a subsequent application revision, the TDS result was placed in the TSS maximum daily value column of the 2C application form.

- The values reported for Beta Particle and Photon Activity are in units of concentration; i.e., pCi/L. The water quality standard for this parameter is an exposure standard, expressed in terms of mrem/year. The EPA has established this same standard for community potable water systems. Federal Regulation states that compliance with the potable water standard may be assumed if the average annual concentration of beta particle and photon activity is less than 50 pCi/L and the average annual concentrations of tritium and strontium-90 are less than 20,000 pCi/L and 8 pCi/L, respectively. For Outfall 001, the reported value of gross beta activity is 25.5 pCi/L, below the EPA community potable water systems standard. The reported level of radium – 226 was 0.3 and total radium was 0.4 pCi/L. No water quality standards exist for these radionuclides. However, the Virginia Health Department drinking water regulations (12-VAC 5- 590-400) state the primary

maximum contaminant level for combined radium-226 and radium-228 is 5 pCi/L. Because the sum of the two forms of radium may be assumed to be equal to or less than total radium, and this result is less than the primary maximum contaminant level for combined radium-226 and radium-228, it is being considered to be absent for the purpose of this analysis. The gross alpha result was <4.3 pCi/L. This value is less than the water quality standard 15 pCi/L. and human health wasteload allocation of 75 pCi/L, and may be assumed absent for the purpose of this evaluation.

- The permittee supplied data for Sulfate, Iron, Aluminum, Barium, Magnesium and Fluoride as documentation previously submitted stated that these constituents could be present in the effluent. TOC, COD, and BOD results were provided as requested by the 2C application. Water quality standards do not exist for TOC, COD, BOD, Aluminum and Magnesium, and the results provided did not lead the staff to further questions, so they were not evaluated further. Water quality standards (with applicable Morris Creek wasteload allocations in parentheses) exist for the following constituents for public water supply waters: Sulfate (1,300,000 ug/l), Iron (1,500 ug/l), and Barium (10,000 ug/l). Because the results supplied do not exceed the wasteload allocations and the discharge location is not a public water supply, further evaluation was not pursued.

- The TDS limit was calculated at the last permit reissuance to be 25,000 mg/l average and maximum. The permit manual requires an effluent TDS limit for reverse osmosis systems (R.O.). Using the permit manual guidance would lead to a TDS limit of 800 mg/l that is based on Best Engineering Judgement (BEJ) for this facility. However, staff believes that a calculated limitation may warrant relief from the recommended 800 ug/L limitation for this case. Similar to the permitting strategy taken during the 2002 permit re-issuance, calculation of a waste load allocation (WLA) to protect human health uses was forced by running the MSTRANTI program as if the discharge were to a public water supply (a conservative assumption). However, the input to the 2002 MSTRANTI analyses was found to be in error in that it designated Morris Creek as a Tier 1, rather than Tier 2, water. Following correction of the tier designation for this analysis, an updated human health WLA was calculated to be 2.5×10^6 ug/L TDS. To use this wasteload allocation as a permit limit would be protective of the water quality of the stream. A compliance schedule is not allowed because this is considered a BEJ limitation and it is anticipated the facility will be able to comply with this limitation.

TABLE III. MONITORING RESULTS

Parameter	Requested QL *	Reported QL	Sample Dates		
			10/24/07	12/6/07	12/12/07
Copper (ug/l)	1.0	2.0	6[1]	<2[2]	
Zinc (ug/l)	2.0	20	<20[1]	<20[2]	
Chromium (ug/l)	0.5	2	3[1]	6[2]	
Hexavalent Chromium (ug/l)	0.5	10		<10[2]	
Chromium III (ug/l)	0.5	5		6[2]	
Lead (ug/l)	0.5	2	<500[1]	<2[2]	
Cadmium (ug/l)	0.3	0.2	<0.2[1]		
Mercury (ug/l)	1.0	0.2	<2[1]	0.40[2]	
Fluoride (mg/l)		1.0	5 mg/l		
Total Dissolved Solids (mg/l)		1		1835	
Ammonia (mg/l)	0.2	0.1	0.5 (10/22/07)		
TSS (mg/l)		1.0	<1.0. (10/22/07)		
TOC (mg/l)		1.0	1.8		
COD (mg/l)		20	<20		
BOD (mg/l)		2	<2 (10/23/07)		

Parameter	Requested QL *	Reported QL	Sample Dates		
			10/24/07	12/6/07	12/12/07
Beta Particle and Photon Activity pCi/L			Gross Alpha <4.3 Radium-226 0.3 Total Radium 0.4 Gross Beta 25.5		
Sulfates (mg/l)	250	1			318
Iron (mg/l)	0.03	0.20			0.39[1]
Aluminum (mg/l)	0.2	0.005			0.014[1]
Barium (mg/l)	0.2	0.50			<0.50[1]
Winter Temperature (deg. F)	----	----			68.0
Magnesium (mg/l)	0.1	0.025			0.406[1]

Hardness 42 mg/l (12/6/07)

[1] Total Metals
[2] Dissolved Metals

*As no previous MSTRANTI spreadsheet had been run for this facility which included site specific target values, requested QLs were used from the lowest DEQ metal specific QLs specified in the permit manual, with the exception of copper, which had later been requested by the laboratory. A QL of 1.0 ug/l was appropriate in this case as it was less than the site specific target value in the current MSTRANTI (1.3 ug/l). QLs were requested by the permittee for sulfates, iron, aluminum, barium and magnesium. All but sulfate were taken from the current EPA "gold" book; literature for sulfate was surveyed on the web, and 250 mg/l seemed to be a representative number.

TABLE IV. BASIS FOR EFFLUENT LIMITATIONS FOR 001

EFFLUENT CHARACTERISTICS	DISCHARGE LIMITS			
	Basis of Limits**	MONTHLY AVERAGE	MINIMUM	MAXIMUM
Flow (MGD)	NA	NL	NA	NL
pH (standard units) S.U.	1	NA	6.0	9.0
Total Dissolved Solids	2	2500 mg/l	NA	2500 mg/l
Total Recoverable Zinc*	1	31 ug/l	NA	31 ug/l
Hexavalent Cr*	1	8.0 ug/l	NA	8.0 ug/l
Total Recoverable Mercury*	1	0.26 ug/l	NA	0.26 ug/l
Ammonia-N*	1	1.1 mg/l	NA	1.1 mg/l

NL = No Limitation, monitoring only
NA = Not Applicable
*Effective on a schedule of compliance

**Key
1. Water Quality-based Limits
1. Best Engineering Judgment

17. Antibacksliding Statement: Not applicable, no limits have been relaxed.

18. Compliance Schedules: A 4-year schedule of compliance is contained in the permit for the parameters of: Total Recoverable Zinc, Total Recoverable Chromium VI, Total Recoverable Mercury, and Ammonia-N. It is permissible to supply a compliance schedule for new water quality limits such as these to enable the permittee an appropriate amount of time to achieve compliance with the limits.

19. Special Conditions:

C.1. Notification Levels
Rationale: Required by VPDES Permit Regulation, 9 VAC 25-31-200 A for all manufacturing, commercial, mining and silvicultural dischargers.

C.2. O&M Manual Requirement
Rationale: Required by Code of Virginia Section 62.1-44.16; VPDES Permit Regulation 9 VAC 25-31-190.E. and 40 CFR 122.41(e). These require proper operation and maintenance of the permitted facility. Compliance with an approved O&M manual ensures this.

C.3. Materials Handling/Storage
Rationale: 9 VAC 25-31-50 A prohibits the discharge of any wastes into State waters unless authorized by permit. Code of Virginia Section 62.1-44.16 and 62.1-44.17 authorizes the Board to regulate the discharge of industrial waste or other waste.

C.4. Facilities Closure Plan
Rationale: The VPDES Permit Regulation, 9 VAC 25-31 et seq requires the submittal of a closure plan when operations at a facility cease.

C.5. Compliance Reporting
Rationale: Authorized by VPDES Permit Regulation, 9 VAC 25-31-190 J 4 and 220 I. This condition is necessary when pollutants are monitored by the permittee and a maximum level of quantification and/or a specific analytical method is required in order to assess compliance with a permit limit or to compare effluent quality with a numeric criterion. The condition also establishes protocols for calculation of reported values.

C.6. Total Maximum Daily Load (TMDL) Reopener
Rationale: Section 303(d) of the Clean Water Act requires that TMDLs be developed for streams listed as impaired. This special condition is to allow the permit to be reopened if necessary to bring it into compliance with any applicable TMDL approved for the receiving stream. This reopener is being put into all permits even if the discharge is not to a listed segment. The re-opener recognizes that, according to section 402(o)(1) of the Clean Water Act, limits and/or conditions may be either more or less stringent than those contained in this permit. Specifically, they can be relaxed it they are the result of a TMDL, basin plan, or other wasteload allocation prepared under section 303 of the Act.

Part II, Conditions Applicable to All Permits
Rationale: VPDES Permit Regulation, 9 VAC 25-31-190 requires all VPDES permits to contain or specifically cite the conditions listed.

20. NPDES Permit Rating Work Sheet: Total Score 73. **(Attachment F)**

20. Changes to Permit:

OUTFALL NO.	PARAMETER CHANGED	MONITORING REQUIREMENT CHANGED		EFFLUENT LIMITS CHANGED		RATIONALE
		FROM	TO	FROM	TO	
001	Total Dissolved Solids			25000 mg/l mo. avg and daily max.	2500 mg/l mo. avg and daily max.	Current permit manual and guidance and spreadsheet calculation with appropriate Tier.
	Total Recoverable Zinc	None	Quarterly	None	31 ug/l mo. Avg and daily max	Guidance memo 00-2011
	Hexavalent Cr	None	Quarterly	None	8.0 ug/l mo. Avg and daily max	Guidance memo 00-2011
	Total Recoverable Mercury	None	Quarterly	None	0.26 ug/l mo. Avg and daily max	Guidance memo 00-2011
	Ammonia-N	None	Quarterly	None	1.1 mg/l mo. Avg and daily max	Guidance memo 00-2011

CHANGES TO PERMIT		
FROM	TO	RATIONALE
Cover Page language	Cover Page language	Boilerplate language changed in accordance with current permit manual.
Cover Page stream classification	Cover Page updated stream classification	The discharge location was changed in the September 2007 water quality standards from James River (Middle) Section 2 to James River (Lower) Section 1. Special Standard NEW-18 was repealed. Updated Water Quality Standards (2006) repealed nutrient enriched waters designations. Special Standard a now applies.
	Part I.A.	Maximum QLs specified for parameters. The QLs were derived from the Site Specific Target Values calculated by MSTRANTI (**Attachment E**).
Part I.A	Part I.A.	Footnotes a,b added.
	I.B.	Compliance Schedule is new for new limits

CHANGES TO PERMIT		
FROM	**TO**	**RATIONALE**
	Part I.A.	Maximum QLs specified for parameters. The QLs were derived from the Site Specific Target Values calculated by MSTRANTI (**Attachment E**).
Part I.A	Part I.A.	Footnotes a,b added.
	I.B.	Compliance Schedule is new for new limits
I.B.3	I.C.1	Notification Levels – no change to language
I.B.1	I.C.2	O&M manual. Updated language from current permit manual
I.B.2	I.C.3	Material Storage Condition. – no change to language
	I.C.4	Industrial Closure Plan 6/04 PRO Permit Writer's meeting decision list
I.B.4	I.C.5	Compliance Reporting. Language reflects current VPDES permit manual
	I.C.6	TMDL reopener– required by current permit manual

22. Variances/Alternate Limits or Conditions: A waiver of the summer temperature was granted on 2-21-08. **(Attachment E)**.

23. Public Notice Information required by 9 VAC 25-31-280 B:

Comment period Start Date: June 5, 2008
End Date: July 7, 2008

Dates of publication: June 5, 2008 and June 12, 2008

Persons may comment in writing or by e-mail to the DEQ on the proposed reissuance of the permit, and may request a public hearing, during the comment period. Comments shall include the name, address, and telephone number of the writer, and shall contain a complete, concise statement of the factual basis for comments. Only those comments received within this period will be considered. The Director of the DEQ may decide to hold a public hearing if public response is significant. Requests for public hearings shall state the reason why a hearing is requested, the nature of the issues proposed to be raised in the public hearing and a brief explanation of how the requester's interests would be directly and adversely affected by the proposed permit action.

All pertinent information is on file and may be inspected, and arrangements made for copying by contacting Ms. Denise Mosca at:

Virginia Department of Environmental Quality
Piedmont Regional Office 4949-A Cox Road
Glen Allen, VA 23060
Telephone No. (804) 527-5027
E-mail address: dmmosca@deq.virginia.gov

Following the comment period, the Board will make a determination regarding the proposed reissuance. This determination will become effective, unless the Director grants a public hearing. Due notice of any public hearing will be given.

24. Additional Comments:
Previous Board Action: None.

Staff Comments:

- This facility is not required to have coverage at this time for the industrial storm water general permit (VAR05) as the SIC code is not identified as a sector of industrial activity. There are no storm water problems at the site that require the issuance of an individual storm water VPDES permit.
- Reduced monitoring at 001 is not appropriate for the monthly parameters as this facility has been issued warning letters for not submitting the application in a timely manner.
- See Attachment G for the EPA checklist.
- This discharge is to waters that do not support shellfish as identified by DSS, therefore additional limitations that correspond to special standard a are not necessary. The discharge is not a source of bacteria. Special standard bb applies chlorophyll a standards to specific segments of the tidal James River, which does not include this discharge location. Special standard z applies a site specific copper standard to specific areas that do not include the area of this discharge. NEW-19 has been repealed in the 2006 water quality standards.
- The permit expired because the application was not submitted until after permit expiration and was not complete until 2-21-08.
- This discharge to Chesapeake Watershed is below the nutrient loading for a wastewater treatment plant equivalent to a 40,000 gpd flow size facility, so the nutrient general permit does not apply, and nutrient reopeners are not required in this individual permit.

Public Comment: None were received.

25. 303(d) Listed Segments (TMDL): This facility discharges directly to Morris Creek. The stream segment receiving the effluent, the oligohaline Chickahominy River estuary (which includes Morris Creek), failed both the Shallow Water Use's Submerged Aquatic Vegetation acreage criteria and the Open Water Use's 30-day summer dissolved oxygen criteria. In addition, the segment is considered fully supporting with observed effects for Fish Consumption Use because it is included in the VDH Fish Consumption Advisory regarding potential kepone contamination in fish tissue. This permit has limits of 1.1 mg/l for ammonia that require compliance with the standard prior to discharge. Given these limits this facility can neither cause nor contribute to nitrogenous BOD which could potentially contribute to the observed violation of the dissolved oxygen standards. The permit contains a re-opener condition that may allow these limits to be modified, in compliance with section 303(d)(4) of the Act once a TMDL is approved.

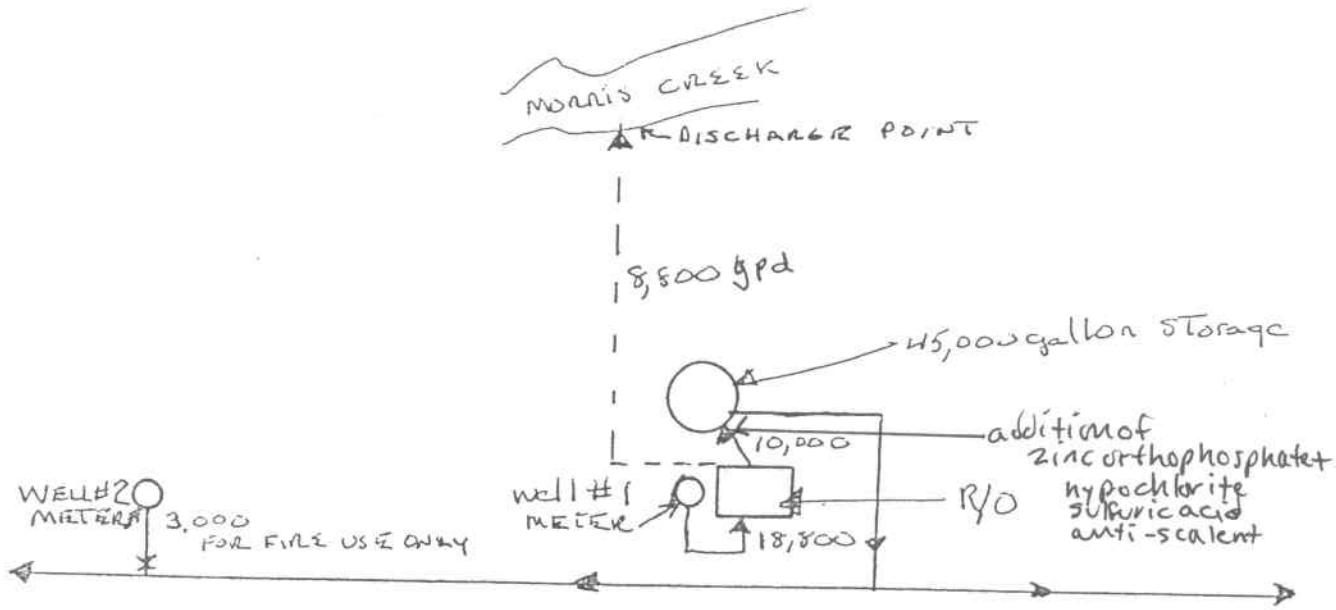
Attachments:

A – Process line drawings
B – Outfall locations
C – 305(b) Fact Sheets and impairment information, Morris Creek data
D – Site Inspection
E – MSTRANTI, stats printouts, sample data
F – NPDES Permit Rating Worksheet
G –EPA Checklist

ATTACHMENT A

MT. ZION | RUSTIC WATER TREATMENT PLANT

BASED ON 10,000 GPD



WELL PRODUCES 1,410 gph
PLANT PRODUCES 750 gph for system
PLANT Discharges 660 gph
STORAGE TANK cut on 16.5 feet
STORAGE TANK cut off 21.0 feet
EACH foot of storage = 1,875 gal.
4.5 Feet = 8438 gallons
Depending on demand (Time of day)
MORE WATER MAY be
consumed Than produced.
PLANT OPERATES approximately 53%
of the hours available.
Discharge is intermittent and does
NOT ~~exceed~~ exceed 11 gpm.

R/O = 23.5 gpm from well
12.5 gpm To storage TANK
AVAILABLE FOR SYSTEM
11.0 gpm CONCENTRATE DISCHARGE
MORRIS CREEK

FOR 10,000 gallon To system.

$\frac{12.5}{23.5} * 10{,}000 = 18{,}800$ g. From well

∴ 8,500 gallons Discharged

ATTACHMENT B

topozone

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- ○ 1:100K Topo Maps
- ○ 1:250K Topo Maps
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Shaded Relief

Street Maps

Aerial Photos

Color Infrared

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- ○ Small
- ○ Medium
- ◉ Large

View Scale

1 : 50,000

Coordinate Format

UTM

Map Datum

NAD27

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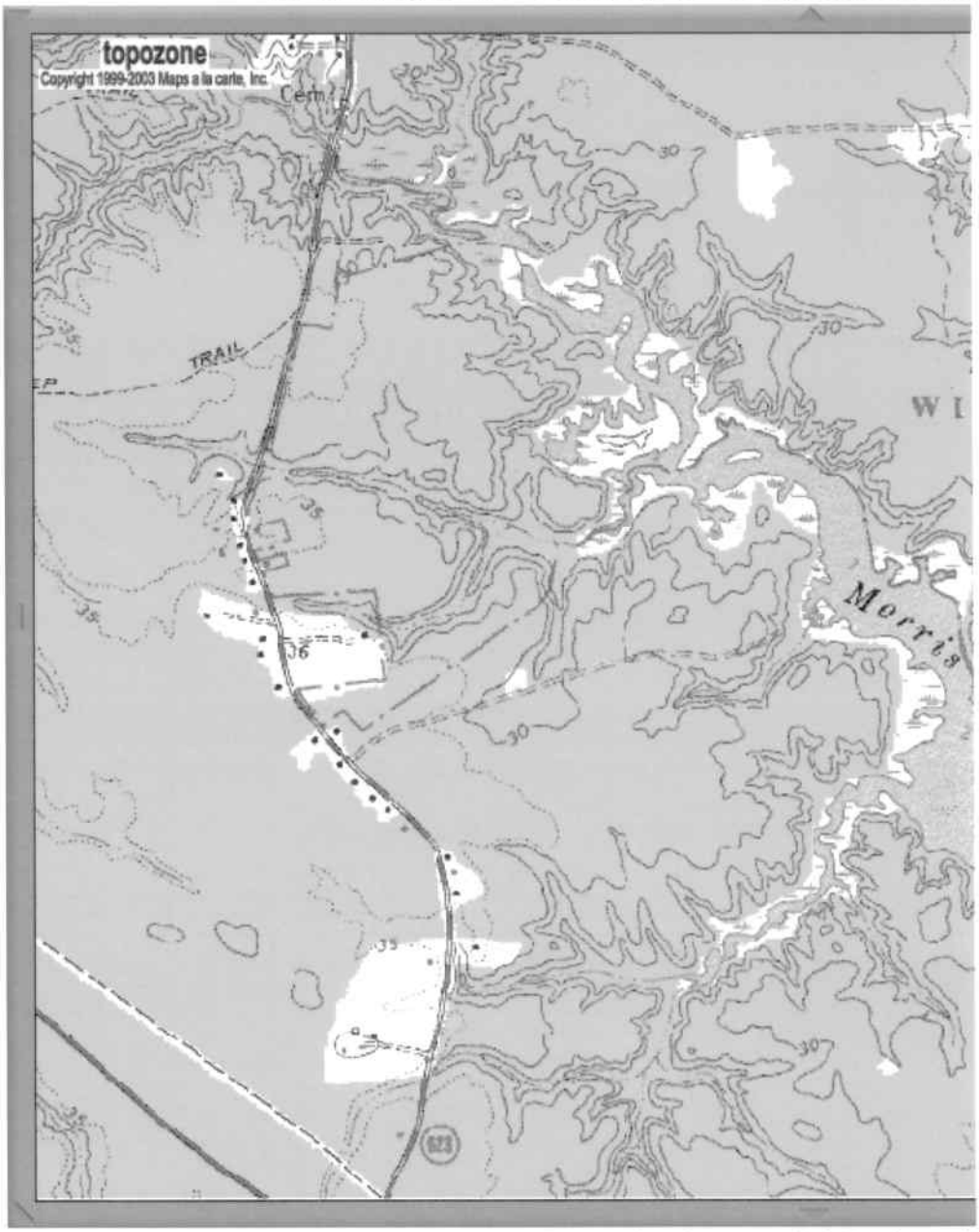

Print Map | Download MapPack | Bookmark

0 0.7 1.4 2.1

0 0.4 0.8 1.2

ATTACHMENT C

MEMORANDUM

DEPARTMENT OF ENVIRONMENTAL QUALITY
Piedmont Regional Office
4949-A Cox Road Glen Allen, Virginia 23060

SUBJECT: Flow Frequency and 303(d) Status Determination
Mt. Zion and Rustic WTP – VA0085936

TO: Denise M. Mosca

FROM: Jennifer V. Palmore, P.G.

DATE: May 7, 2007

COPIES: File

The Mt. Zion and Rustic Water Treatment Plant discharges to Morris Creek in Charles City County, VA. The discharge is located at rivermile 2-MOC004.49. Stream flow frequencies and the current 303(d) status have been requested at this site for use by the permit writer in developing effluent limitations for the VPDES permit.

Morris Creek is tidally influenced at the discharge point. Flow frequencies cannot be determined for tidal waters, therefore dilution ratios should be used to evaluate the effluent's impact on the water body.

In the 2006 305(b)/303(d) Integrated Report, the tidal portion of Morris Creek was assessed as a Category 5A water. During the 2006 cycle, the Chesapeake Bay Water Quality Standards were adopted. The oligohaline Chickahominy River estuary, which includes tidal Morris Creek, failed both the Shallow Water Use's Submerged Aquatic Vegetation acreage criteria and the Open Water Use's 30-day summer dissolved oxygen criteria.

In addition, the segment is considered fully supporting with observed effects for the Fish Consumption Use because it is included in the VDH Fish Consumption Advisory regarding potential kepone contamination in fish tissue.

If you have any questions concerning this analysis or need additional information, please let me know.

Mosca,Denise

From: Palmore,Jennifer

Sent: Thursday, January 24, 2008 2:30 PM

To: Mosca,Denise

Subject: Morris Creek

I received your question about the Tier designation for the tidal portion of Morris Creek at the Mt. Zion & Rustic WTP outfall. Although the creek is considered impaired of the Aquatic Life Use due to failure of the Chesapeake Bay Open Water Subuse's 30-day DO criteria and the Shallow Water Subuse's SAV acreage criteria, the criteria are implemented on a segment-wide basis (in this case the entire oligohaline Chickahominy River estuary) and draft guidance states that we should not consider the segment-wide criteria when performing tier designations but should instead look at local data. We only have one data point on the tidal portion of Morris Creek, and that data point showed temperature, DO, and pH were acceptable. Because of a lack of data on the creek itself, the creek defaults to a Tier 2 water.

If you have any questions, please let me know. Thanks.

Jennifer V. Palmore, P.G.
Senior Environmental Engineer
Dept. of Environmental Quality
Piedmont Regional Office
4949-A Cox Road
Glen Allen, VA 23060
(804) 527-5058
(804) 527-5106 (fax)

Mosca,Denise

From: Palmore,Jennifer
Sent: Thursday, April 26, 2007 2:44 PM
To: Mosca,Denise
Subject: FW: data requests for permit reissuances.

Attached are the data analyses that you requested. For Ampro, I used Carter's Creek at the pier at the end of Crocketts Lane (3-CTR001.06), which was the same station as last time. For Mt. Zion, I talked to Mark, and the station on Morris Creek at the Route 623 bridge is slightly tidal, so I would use that one. It is a little over a mile upstream of the facility (2-MOC005.97.)

If you have any questions, please let me know.

Thanks.

Jennifer Palmore

-----Original Message-----
From: Mosca,Denise
Sent: Wednesday, April 25, 2007 3:54 PM
To: Palmore,Jennifer
Subject: FW: data requests for permit reissuances.

Oops, never mind about 5ANTW109.02 for the Nottoway, I see you got it for Jaime.
Denise

-----Original Message-----
From: Mosca,Denise
Sent: Wednesday, April 25, 2007 3:50 PM
To: Palmore,Jennifer
Subject: data requests for permit reissuances.

Jennifer, please send me data for Carter's creek for ampro shipyard VA0089303 in Lancaster co. For the Tides' we used 3-CTR001.06.
5ANTW109.02 for the Nottoway River for VA0028291 for Nottoway Motel and Restaurant.
Also , I need some data for Morris Creek where Mt. Zion and Rustic WTP is located in Chas. City Co, VA0085936. It is tidal at the discharge location. The previous permit said that no data exist for the tidal portion of the stream. Is this still true, if so, is there a comparable stream we could use the data from?
Thanks,
Denise

Denise Mosca
Environmental Specialist II
DEQ-Piedmont Regional Office
4949-A Cox Road,
Glen Allen, Va. 23060
(804) 527-5027
fax (804) 527-5106

						00900 HARDNESS, TOTAL (MG/L AS CACO3)	
						Value	Com Code
Sta Id	Collection Date Time	Depth	Depth	Container	Comment		
2-MOC005.97	07/19/1990 12:00	S	0.3	R	STORET DATA CONVERSION	36.0000	
	10/18/1990 10:00	S	0.3	R	STORET DATA CONVERSION	104.0000	
	01/17/1991 12:30	S	0.3	R	STORET DATA CONVERSION	18.0000	
	04/24/1991 11:20	B	0.3	R	STORET DATA CONVERSION	40.0000	
		S	0.09	R	STORET DATA CONVERSION	40.0000	
	07/17/1991 11:53	S	0.3	R	STORET DATA CONVERSION	52.0000	
	01/02/1992 11:12	S	0.3	R	STORET DATA CONVERSION	22.0000	
	04/02/1992 10:10	S	0.3	R	STORET DATA CONVERSION	28.0000	
	07/15/1992 10:14	S	0.3	R	STORET DATA CONVERSION	560.0000	
	10/26/1992 10:00	S	0.3	R	STORET DATA CONVERSION	64.0000	
	01/21/1993 10:20	S	0.3	R	STORET DATA CONVERSION	19.0000	
	04/19/1993 10:30	S	0.3	R	STORET DATA CONVERSION	20.0000	
	07/19/1993 10:40	S	0.3	R	STORET DATA CONVERSION	34.0000	
	10/12/1993 10:44	S	0.3	R	STORET DATA CONVERSION	400.0000	
	04/05/1994 11:36	S	0.3	R	STORET DATA CONVERSION	15.0000	
	09/12/1994 15:51	S	0.3	R	STORET DATA CONVERSION	55.0000	
	12/05/1994 13:00	S	0.3	R	STORET DATA CONVERSION	23.0000	
	03/22/1995 12:00	S	0.3	R	STORET DATA CONVERSION	20.0000	
	06/27/1995 11:00	S	0.3	R	STORET DATA CONVERSION	33.0000	
	09/27/1995 13:00	S	0.3	R	STORET DATA CONVERSION	33.0000	
	12/27/1995 12:30	S	0.3	R	STORET DATA CONVERSION	23.0000	
	03/25/1996 11:50	S	0.3	R	STORET DATA CONVERSION	20.0000	
	06/24/1996 11:51	S	0.3	R	STORET DATA CONVERSION	42.0000	
	09/24/1996 10:34	S	0.3	R	STORET DATA CONVERSION	34.0000	
	12/19/1996 13:00	S	0.3	R	STORET DATA CONVERSION	16.0000	
	03/17/1997 09:45	S	0.3	R	STORET DATA CONVERSION	21.2000	
	06/02/1997 13:33	S	0.3	R	STORET DATA CONVERSION	31.4000	
	07/30/1997 11:14	S	0.3	R	STORET DATA CONVERSION	31.8000	
	09/22/1997 12:11	S	0.3	R	STORET DATA CONVERSION	93.1000	
	11/20/1997 11:00	S	0.3	R	STORET DATA CONVERSION	17.7000	
	01/28/1998 13:31	S	0.3	R	STORET DATA CONVERSION	12.2000	
	03/25/1998 10:59	S	0.3	R	STORET DATA CONVERSION	8.1000	
	05/20/1998 10:45	S	0.3	R	STORET DATA CONVERSION	18.3000	
	07/22/1998 11:00	S	0.3	R	STORET DATA CONVERSION	34.5000	
	09/23/1998 11:15	S	0.3	R	STORET DATA CONVERSION	119.0000	
	11/19/1998 11:50	S	0.3	R	STORET DATA CONVERSION	252.0000	
	01/13/1999 10:25	S	0.3	R		26.0000	
	03/04/1999 11:40	S	0.3	R		42.0000	
	05/12/1999 13:25	S	0.3	R		60.0000	
	07/19/1999 11:50	S	0.3	R		15.8000	
	09/08/1999 13:25	S	3	R		161.0000	
	11/09/1999 12:45	S	0.3	R	FLOW NORMAL	26.0000	
	01/04/2000 13:00	S	0.3	R		14.5000	
	03/06/2000 14:15	S	0.3	R		13.0000	
	05/24/2000 12:10	S	0.3	R		23.0000	
	07/19/2000 12:05	S	0.3	R		36.0000	
	09/14/2000 13:00	S	0.3	R		17.4000	
	11/07/2000 11:45	S	0.3	R		33.9000	
	01/24/2001 12:50	S	0.3	R		13.0000	
	03/20/2001 10:15	S	0.3	R		8.1000	
	06/21/2005 14:25	S	0.3	R	NORMAL FLOW	36.0000	

						00900 HARDNESS, TOTAL (MG/L AS CACO3)	
						Value	Com Code
Sta Id	Collection Date Time	Depth	Depth	Container	Comment		
	08/15/2005 12:30	S	0.3	R	NORMAL FLOW	50.0000	
	10/13/2005 12:45	S	0.3	R		130.0000	
	12/20/2005 12:30	S	0.3	R	NORMAL FLOW	16.0000	
	02/15/2006 12:10	S	0.3	R		12.0000	
	04/19/2006 12:45	S	0.3	R		37.0000	
	06/20/2006 12:15	S	0.3	R		32.0000	
	08/28/2006 12:45	S	0.3	R	LOW FLOW- DELETED DO DATA DUE TO DO POSTCHECK TOO HIGH	97.0000	
	10/23/2006 12:00	S	0.3	R		18.0000	
	12/05/2006 13:55	S	0.3	R		15.0000	
	01/04/2007 11:30	S	0.3	R	NORMAL FLOW	12.0000	
	03/01/2007 11:05	S	0.3	R	LOW FLOW	10.0000	
Average						**54.0**	

Station ID	Collection Date	Depth Desc	Depth	Temp Celcius	Field Ph	Do Probe	Salinity
2-MOC005.97	1/17/1990	B	.30	9.32	6.39	7.69	
2-MOC005.97	1/17/1990	S	.09			7.69	
2-MOC005.97	7/19/1990	S	.30	26.80	6.60		
2-MOC005.97	10/18/1990	S	.30	17.90	6.07		
2-MOC005.97	1/17/1991	S	.30	9.30	6.39		
2-MOC005.97	4/24/1991	S	.09	16.95	6.47	4.74	
2-MOC005.97	4/24/1991	B	.30				
2-MOC005.97	7/17/1991	S	.30	24.82	6.20	1.49	
2-MOC005.97	10/16/1991	S	.30	14.87	6.89	4.39	
2-MOC005.97	1/2/1992	S	.30	7.63	5.65	7.47	
2-MOC005.97	4/2/1992	S	.30	11.66	5.01	7.62	
2-MOC005.97	4/30/1992	S	.30	13.12	5.26	2.84	
2-MOC005.97	7/15/1992	S	.30	27.81	5.86	1.40	
2-MOC005.97	7/27/1992	S	1.10				
2-MOC005.97	10/26/1992	S	.30	10.12	5.88	3.98	
2-MOC005.97	1/21/1993	S	.30	2.61	5.63	10.27	
2-MOC005.97	4/19/1993	S	.30	15.15	5.62	5.57	
2-MOC005.97	7/19/1993	S	.30	25.37	5.90	1.90	
2-MOC005.97	10/12/1993	S	.30	15.21	6.21	5.66	
2-MOC005.97	1/18/1994	S	.30	.50	5.44	11.27	
2-MOC005.97	4/5/1994	S	.30	15.64	5.46	5.91	
2-MOC005.97	9/12/1994	S	.30	20.65	6.29	5.03	
2-MOC005.97	12/5/1994	S	.30	10.40	6.00	4.43	
2-MOC005.97	3/22/1995	S	.30	15.17	5.97	5.27	
2-MOC005.97	6/27/1995	S	.30	25.03	6.01	1.54	
2-MOC005.97	9/27/1995	S	.30	17.73	6.11	3.98	
2-MOC005.97	12/27/1995	S	.30	1.00	5.72	8.32	
2-MOC005.97	3/25/1996	S	.30	10.24	6.01	7.68	
2-MOC005.97	6/24/1996	S	.30	26.80	6.35	.98	
2-MOC005.97	9/24/1996	S	.30	18.90	6.06	3.08	
2-MOC005.97	12/19/1996	S	.30	9.22	5.48	8.20	
2-MOC005.97	3/17/1997	S	.30	8.00	6.54	8.39	
2-MOC005.97	6/2/1997	S	.30	21.57	5.82	2.16	
2-MOC005.97	6/4/1997	S	.30	19.02	6.30	3.84	
2-MOC005.97	7/30/1997	S	.30	25.48	6.02	1.29	
2-MOC005.97	9/12/1997	S	.40				
2-MOC005.97	9/22/1997	S	.30	18.66	6.12	3.88	
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2-MOC005.97	1/28/1998	S	.30	6.81	5.63	9.36	
2-MOC005.97	3/25/1998	S	.30	8.76	5.63	8.58	
2-MOC005.97	5/20/1998	S	.30	22.12	5.89	1.79	
2-MOC005.97	7/22/1998	S	.30	28.34	6.55	2.00	
2-MOC005.97	9/23/1998	S	.30	22.98	6.21	3.01	.20
2-MOC005.97	11/19/1998	S	.30	9.55	5.54	4.40	1.10
2-MOC005.97	1/13/1999	S	.30	4.91	5.35	7.55	
2-MOC005.97	3/4/1999	S	.30	8.24	5.88	8.35	
2-MOC005.97	5/12/1999	S	.30	22.90	6.29	3.23	
2-MOC005.97	7/19/1999	S	.30	26.43	6.47	1.93	
2-MOC005.97	9/8/1999	S	.30	23.88	5.97	2.74	1.00
2-MOC005.97	9/8/1999	S	3.00				
2-MOC005.97	9/8/1999	S	3.00				

Station ID	Collection Date	Depth Desc	Depth	Temp Celcius	Field Ph	Do Probe	Salinity
2-MOC005.97	9/8/1999	S	3.00				
2-MOC005.97	9/8/1999	S	3.00				
2-MOC005.97	9/8/1999	S	3.00				
2-MOC005.97	11/9/1999	S	.30	9.43	5.67	3.47	.00
2-MOC005.97	1/4/2000	S	.30	14.48	5.99	7.30	.00
2-MOC005.97	3/6/2000	S	.30	10.57	6.04	7.84	.00
2-MOC005.97	5/24/2000	S	.30	20.33	5.85	2.45	.00
2-MOC005.97	7/19/2000	S	.30	25.96	6.30	2.56	.10
2-MOC005.97	9/14/2000	S	.30	23.59	5.88	1.75	
2-MOC005.97	10/26/2000	S	.30	14.80	6.70	6.00	
2-MOC005.97	11/7/2000	S	.30	9.67	5.90	4.26	
2-MOC005.97	1/8/2001	S	.30	1.54	6.02	11.20	.00
2-MOC005.97	1/24/2001	S	.30	1.54	6.02	11.20	.00
2-MOC005.97	3/20/2001	S	.30	9.63	5.93	8.87	.00
2-MOC005.97	6/21/2005	S	.30	21.87	6.50	3.53	.00
2-MOC005.97	8/15/2005	S	.30	28.70	6.42	1.80	.00
2-MOC005.97	10/13/2005	S	.30	18.80	6.75	2.67	.00
2-MOC005.97	12/20/2005	S	.30	2.20	6.44	9.95	.00
2-MOC005.97	1/17/2006	S	.30	4.11	6.96		
2-MOC005.97	2/15/2006	S	.30	5.17	6.12	10.57	.00
2-MOC005.97	2/21/2006	S	.30	4.84	6.36	10.60	
2-MOC005.97	3/20/2006	S	.30	11.10	6.70	3.40	
2-MOC005.97	4/19/2006	S	.30	17.80	6.70	3.60	
2-MOC005.97	4/26/2006	S	.30	19.70	6.50	3.70	.00
2-MOC005.97	5/15/2006	S	.30	18.60	6.70	4.60	.00
2-MOC005.97	6/20/2006	S	.30	25.00	6.70	2.20	
2-MOC005.97	6/21/2006	S	.30	26.50	6.60	4.10	
2-MOC005.97	7/24/2006	S	.30	26.10	6.60	3.50	.00
2-MOC005.97	8/22/2006	S	.30	25.60	6.60	3.00	.00
2-MOC005.97	8/28/2006	S	.30	26.60	6.40		.00
2-MOC005.97	9/27/2006	S	.30	19.30	6.30	3.50	.00
2-MOC005.97	10/23/2006	S	.30	13.10	6.60	3.20	
2-MOC005.97	10/23/2006	S	.30				
2-MOC005.97	11/15/2006	S	.30	12.50	5.70	5.90	.00
2-MOC005.97	12/5/2006	S	.30	6.30	6.10	7.50	.00
2-MOC005.97	12/11/2006	S	.30	4.00	5.80	10.00	.00
2-MOC005.97	1/4/2007	S	.30	7.10	5.50	9.10	
2-MOC005.97	3/1/2007	S	.30	8.30	5.30	9.60	.00
90th Percentile				**26.2**	**6.6**		
10th Percentile				**4.1**	**5.5**		
Average							**.1**

Fact Sheets for Category 5 Waters

RIVER BASIN: James River Basin

STREAM NAME: Chickahominy River

HYDROLOGIC UNIT: 02080206

TMDL ID: VAP-G08E-03

NEW TMDL ID: 10096/10097

ASSESSMENT CATEGORY: 5A

TMDL DUE DATE: 2010

SEGMENT SIZE: 9.44 - Sq. Mi.

INITIAL LISTING: 2006

UPSTREAM LIMIT:

DESCRIPTION: Walkers Dam

RIVER MILE: 24.00

DOWNSTREAM LIMIT:

DESCRIPTION: Mouth

RIVER MILE: 0.00

The tidal Chickahominy River estuary.

CLEAN WATER ACT GOAL AND USE SUPPORT:

Aquatic Life Use - Not Supporting, Open Water Use - Not Supporting, Shallow Water Use - Not Supporting

IMPAIRMENT CAUSE: Dissolved Oxygen, Submerged Aquatic Vegetation

During the 2006 cycle, the Chesapeake Bay Water Quality Standards were adopted. The oligohaline Chickahominy River estuary failed the Shallow Water Submerged Aquatic Vegetation acreage criteria and the Open Water 30-day summer dissolved oxygen criteria.

IMPAIRMENT SOURCE: Nonpoint Source, Point Source

The tributary strategy for the James River, which includes the Chickahominy River, has been developed.

RECOMMENDATION: Tributary Strategy Implementation

ATTACHMENT D

MEMORANDUM

DEPARTMENT OF ENVIRONMENTAL QUALITY
Piedmont Regional Office

4949-A Cox Road Glen Allen, VA 23060 **804/527-5020**

Memo to: File
From: D. Mosca
Date: November 6, 2007
Re: Mt. Zion and Rustic WTP VA0085936 Site Visit

I performed an announced inspection on November 1, 2007 of the Mt. Zion and Rustic WTP for the purpose of verifying permit application information and to observe the discharge point. I met Mr. Frank Masuicca at the site (804-647-9823). The small water treatment plant is located down a rural road in a residential area. It serves 75 houses up and down Willcox Road and 4-5 houses down towards the outfall. The outfall is located about one mile down Morris Creek Landing Rd., which intersects Willcox Rd. at the water treatment plant.

This facility consists of a R.O. unit in a concrete building with treatment areas to the left of the door to adjust pH (with sulfuric acid), and add chlorine, zinc orthophosphate to the treated water and an anti scalant to add to the raw water. These chemicals are stored in this building. Another concrete building houses the well and its pumps. After treatment, which includes blending with raw water, the finished water is chlorinated and stored in a 45,000 gal. tank onsite. An automatic generator is onsite. Tests run consist of chlorine, zinc and pH, conductivities and guage recordings once per day.

The discharge consists of the concentrate from the R.O. unit and is piped to a wetland area at Morris Creek. The effluent appeared clear and no problems were observed.

COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY

W. Tayloe Murphy, Jr.
Secretary of Natural Resources

PIEDMONT REGIONAL OFFICE
4949-A Cox Road
Glen Allen, Virginia 23060
(804) 527-5020
Fax (804) 527-5106
www.deq.state.va.us

Robert G. Burnley
Director

Gerard Seeley, Jr.
Piedmont Regional Director

December 27, 2002

Mr. John F. Miniclier, Jr., P.E.
Director of Public Works
10900 Courthouse Rd.
Charles City, VA 23030

RE: VPDES Permit VA#0085936 - Wastewater Treatment for Mt. Zion/Rustic WTP

Dear Mr. Miniclier:

Enclosed is a copy of the *Wastewater Facility Inspection Report* for the June 6, 2002 Technical/Lab Inspection at your facility. Please review the report carefully.

Thank you for your staff's cooperation and assistance during the inspection. I apologize for the length of time it took me to send the report to you.

If you have any questions regarding this report, please contact me at (804) 527-5025.

Sincerely,

J. R. Bell, Jr.
Water Compliance Manager

cc: DEQ - OWPS

MEMORANDUM

DEPARTMENT OF ENVIRONMENTAL QUALITY
Piedmont Regional Office

4949-A Cox Road Glen Allen, VA 23060-6295 804/527-5020

SUBJECT: Mt. Zion and Rustic WTP - VPDES #VA0085936

TO: Technical File

FROM: J.R. Bell

DATE: December 27, 2002

COPIES: OWPS, Owner

I conducted an unannounced technical and lab inspection at this facility on June 6, 2002. David Longbottom was present during the inspection.

The facility is a potable well-water treatment plant for the communities of Mt. Zion and Rustic. The plant consists of a reverse osmosis treatment unit. The water supply is a 250-foot deep well. The well water is conditioned with sulfuric acid and an anti-scaling agent. It is then pumped through 5-micron membrane filters. The concentrate from this operation makes up the wastewater discharge. The permeate water is then blended together with the raw well water at a ratio of 10.5 to 3 gallons. Zinc and corrosion inhibitor is then added, along with chlorine. The finished water is then stored in a 45,000-gallon tank. A hydrotank is used to deliver the water to the communities.

The plant is equipped with an emergency back-up generator, which automatically activates during power outages. This generator is regularly tested. The plant manufactures drinking water on an as-needed basis. A constant flow of concentrate wastewater is discharged during operations, therefore equal hourly grabs can be composited for the flow proportional sample requirements (5G/8HC).

The discharge is piped approximately one mile to Morris Creek. The discharge is to a wetland area about 25 feet from the creek proper. The outfall and stream were observed and no problems were noted. The discharge was very clear, and the stream showed no signs of solids deposition.

EnviroCompliance does their lab work. Records were checked onsite. The results are reported correctly and as required by the permit.

All units were in place and operational at the time of the inspection.

Compliance Recommendations

None

ATTACHMENT E

MSTRANTI DATA SOURCE REPORT

Stream Information:	
Mean Salinity	**Morris Creek 2-MOC005.97**
90% Temperature	**Morris Creek 2-MOC005.97**
90% and 10% Maximum pH	**Morris Creek 2-MOC005.97**
Tier Designation	Default assumption, Tier 2.
Stream Flows	
All Data	The receiving stream is freshwater tidal. All low-flow scenarios are calculated from the 2:1 acute and 50:1 chronic tidal defaults. These are appropriate for this situation because it is a shore based discharge. The 1Q10 flow was calculated as 1x the effluent flow of 0.009 MGD as the other part of the 2:1 ratio; the 7Q10 was calculated as 49x the effluent flow. Assuming the 30Q5 to be the same as the 7Q10 flow is conservative.
Effluent Information: Mt. Zion and Rustic WTP	
Mean Hardness	42 mg/l; was provided in the application.
Temperature	28 deg. C assumed due to lack of data
Maximum pH P_{90}	2C application
Maximum pH P_{10}	2C application, pH min.
Discharge Flow	Permit/Application 0.009 MGD

FRESHWATER
WATER QUALITY CRITERIA / WASTELOAD ALLOCATION ANALYSIS

Facility Name: Mt. Zion and Rustic WTP Permit No.: VA0085936

Receiving Stream: Morris Creek Version: OWP Guidance Memo 00-2011 (8/24/00)

Stream Information

Mean Hardness (as CaCO3) =	54	mg/L
90% Temperature (Annual) =	26.2	deg C
90% Temperature (Wet season) =	4.1	deg C
90% Maximum pH =	6.6	SU
10% Maximum pH =	5.5	SU
Tier Designation (1 or 2) =	2	
Public Water Supply (PWS) Y/N? =	n	
Trout Present Y/N? =	n	
Early Life Stages Present Y/N? =	y	

Stream Flows

1Q10 (Annual) =	0.009	MGD
7Q10 (Annual) =	0.441	MGD
30Q10 (Annual) =		MGD
1Q10 (Wet season) =		MGD
30Q10 (Wet season) =		MGD
30Q5 =	0.441	MGD
Harmonic Mean =	0.441	MGD
Annual Average =		MGD

Mixing Information

Annual - 1Q10 Mix =	100	%
- 7Q10 Mix =	100	%
- 30Q10 Mix =	100	%
Wet Season - 1Q10 Mix =	100	%
- 30Q10 Mix =	100	%

Effluent Information

Mean Hardness (as CaCO3) =	42	mg/L
90% Temp (Annual) =	28	deg C
90% Temp (Wet season) =		deg C
90% Maximum pH =	7.2	SU
10% Maximum pH =	6.9	SU
Discharge Flow =	0.009	MGD

Parameter	Background	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations			
(ug/l unless noted)	Conc.	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
Acenapthene	0	--	--	na	2.7E+03	--	--	na	1.4E+05	--	--	na	2.7E+02	--	--	na	1.4E+04	--	--	na	1.4E+04
Acrolein	0	--	--	na	7.8E+02	--	--	na	3.9E+04	--	--	na	7.8E+01	--	--	na	3.9E+03	--	--	na	3.9E+03
Acrylonitrile [C]	0	--	--	na	6.6E+00	--	--	na	3.3E+02	--	--	na	6.6E-01	--	--	na	3.3E+01	--	--	na	3.3E+01
Aldrin [C]	0	3.0E+00	--	na	1.4E-03	6.0E+00	--	na	7.0E-02	7.5E-01	--	na	1.4E-04	1.5E+00	--	na	7.0E-03	1.5E+00	--	na	7.0E-03
Ammonia-N (mg/l) (Yearly)	0	4.19E+01	2.26E+00	na	--	8.4E+01	2.3E+00	na	--	1.05E+01	5.65E-01	na	--	2.1E+01	5.6E-01	na	--	2.1E+01	5.6E-01	na	--
Ammonia-N (mg/l) (High Flow)	0	2.95E+01	5.39E+00	na	--	3.0E+01	5.4E+00	na	--	7.38E+00	1.35E+00	na	--	7.4E+00	1.3E+00	na	--	7.4E+00	1.3E+00	na	--
Anthracene	0	--	--	na	1.1E+05	--	--	na	5.5E+06	--	--	na	1.1E+04	--	--	na	5.5E+05	--	--	na	5.5E+05
Antimony	0	--	--	na	4.3E+03	--	--	na	2.2E+05	--	--	na	4.3E+02	--	--	na	2.2E+04	--	--	na	2.2E+04
Arsenic	o	3.4E+02	1.5E+02	na	--	6.8E+02	7.5E+03	na	--	8.5E+01	3.8E+01	na	--	1.7E+02	1.9E+03	na	--	1.7E+02	1.9E+03	na	--
Barium	0	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--
Benzene [C]	0	--	--	na	7.1E+02	--	--	na	3.6E+04	--	--	na	7.1E+01	--	--	na	3.6E+03	--	--	na	3.6E+03
Benzidine [C]	0	--	--	na	5.4E-03	--	--	na	2.7E-01	--	--	na	5.4E-04	--	--	na	2.7E-02	--	--	na	2.7E-02
Benzo (a) anthracene [C]	0	--	--	na	4.9E-01	--	--	na	2.5E+01	--	--	na	4.9E-02	--	--	na	2.5E+00	--	--	na	2.5E+00
Benzo (b) fluoranthene [C]	0	--	--	na	4.9E-01	--	--	na	2.5E+01	--	--	na	4.9E-02	--	--	na	2.5E+00	--	--	na	2.5E+00
Benzo (k) fluoranthene [C]	0	--	--	na	4.9E-01	--	--	na	2.5E+01	--	--	na	4.9E-02	--	--	na	2.5E+00	--	--	na	2.5E+00
Benzo (a) pyrene [C]	0	--	--	na	4.9E-01	--	--	na	2.5E+01	--	--	na	4.9E-02	--	--	na	2.5E+00	--	--	na	2.5E+00
Bis2-Chloroethyl Ether	0	--	--	na	1.4E+01	--	--	na	7.0E+02	--	--	na	1.4E+00	--	--	na	7.0E+01	--	--	na	7.0E+01
Bis2-Chloroisopropyl Ether	0	--	--	na	1.7E+05	--	--	na	8.5E+06	--	--	na	1.7E+04	--	--	na	8.5E+05	--	--	na	8.5E+05
Bromoform [C]	0	--	--	na	3.6E+03	--	--	na	1.8E+05	--	--	na	3.6E+02	--	--	na	1.8E+04	--	--	na	1.8E+04
Butylbenzylphthalate	0	--	--	na	5.2E+03	--	--	na	2.6E+05	--	--	na	5.2E+02	--	--	na	2.6E+04	--	--	na	2.6E+04
Cadmium	0	1.7E+00	7.0E-01	na	--	3.4E+00	3.5E+01	na	--	4.3E-01	1.7E-01	na	--	8.6E-01	8.7E+00	na	--	8.6E-01	8.7E+00	na	--
Carbon Tetrachloride [C]	0	--	--	na	4.4E+01	--	--	na	2.2E+03	--	--	na	4.4E+00	--	--	na	2.2E+02	--	--	na	2.2E+02
Chlordane [C]	0	2.4E+00	4.3E-03	na	2.2E-02	4.8E+00	2.2E-01	na	1.1E+00	6.0E-01	1.1E-03	na	2.2E-03	1.2E+00	5.4E-02	na	1.1E-01	1.2E+00	5.4E-02	na	1.1E-01
Chloride	0	8.6E+05	2.3E+05	na	--	1.7E+06	1.2E+07	na	--	2.2E+05	5.8E+04	na	--	4.3E+05	2.9E+06	na	--	4.3E+05	2.9E+06	na	--
TRC	0	1.9E+01	1.1E+01	na	--	3.8E+01	5.5E+02	na	--	4.8E+00	2.8E+00	na	--	9.5E+00	1.4E+02	na	--	9.5E+00	1.4E+02	na	--
Chlorobenzene	0	--	--	na	2.1E+04	--	--	na	1.1E+06	--	--	na	2.1E+03	--	--	na	1.1E+05	--	--	na	1.1E+05

Parameter	Background	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations			
(ug/l unless noted)	Conc.	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
Chlorodibromomethane [C]	0	--	--	na	3.4E+02	--	--	na	1.7E+04	--	--	na	3.4E+01	--	--	na	1.7E+03	--	--	na	1.7E+03
Chloroform [C]	0	--	--	na	2.9E+04	--	--	na	1.5E+06	--	--	na	2.9E+03	--	--	na	1.5E+05	--	--	na	1.5E+05
2-Chloronaphthalene	0	--	--	na	4.3E+03	--	--	na	2.2E+05	--	--	na	4.3E+02	--	--	na	2.2E+04	--	--	na	2.2E+04
2-Chlorophenol	0	--	--	na	4.0E+02	--	--	na	2.0E+04	--	--	na	4.0E+01	--	--	na	2.0E+03	--	--	na	2.0E+03
Chlorpyrifos	0	8.3E-02	4.1E-02	na	--	1.7E-01	2.1E+00	na	--	2.1E-02	1.0E-02	na	--	4.2E-02	5.1E-01	na	--	4.2E-02	5.1E-01	na	--
Chromium III	0	3.1E+02	4.5E+01	na	--	6.2E+02	2.2E+03	na	--	7.8E+01	1.1E+01	na	--	1.6E+02	5.6E+02	na	--	1.6E+02	5.6E+02	na	--
Chromium VI	0	1.6E+01	1.1E+01	na	--	3.2E+01	5.5E+02	na	--	4.0E+00	2.8E+00	na	--	8.0E+00	1.4E+02	na	--	8.0E+00	1.4E+02	na	--
Chromium, Total	0	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--
Chrysene [C]	0	--	--	na	4.9E-01	--	--	na	2.5E+01	--	--	na	4.9E-02	--	--	na	2.5E+00	--	--	na	2.5E+00
Copper	0	6.7E+00	5.3E+00	na	--	1.3E+01	2.6E+02	na	--	1.7E+00	1.3E+00	na	--	3.4E+00	6.6E+01	na	--	3.4E+00	6.6E+01	na	--
Cyanide	0	2.2E+01	5.2E+00	na	2.2E+05	4.4E+01	2.6E+02	na	1.1E+07	5.5E+00	1.3E+00	na	2.2E+04	1.1E+01	6.5E+01	na	1.1E+06	1.1E+01	6.5E+01	na	1.1E+06
DDD [C]	0	--	--	na	8.4E-03	--	--	na	4.2E-01	--	--	na	8.4E-04	--	--	na	4.2E-02	--	--	na	4.2E-02
DDE [C]	0	--	--	na	5.9E-03	--	--	na	3.0E-01	--	--	na	5.9E-04	--	--	na	3.0E-02	--	--	na	3.0E-02
DDT [C]	0	1.1E+00	1.0E-03	na	5.9E-03	2.2E+00	5.0E-02	na	3.0E-01	2.8E-01	2.5E-04	na	5.9E-04	5.5E-01	1.3E-02	na	3.0E-02	5.5E-01	1.3E-02	na	3.0E-02
Demeton	0	--	1.0E-01	na	--	--	5.0E+00	na	--	--	2.5E-02	na	--	--	1.3E+00	na	--	--	1.3E+00	na	--
Dibenz(a,h)anthracene [C]	0	--	--	na	4.9E-01	--	--	na	2.5E+01	--	--	na	4.9E-02	--	--	na	2.5E+00	--	--	na	2.5E+00
Dibutyl phthalate	0	--	--	na	1.2E+04	--	--	na	6.0E+05	--	--	na	1.2E+03	--	--	na	6.0E+04	--	--	na	6.0E+04
Dichloromethane (Methylene Chloride) [C]	0	--	--	na	1.6E+04	--	--	na	8.0E+05	--	--	na	1.6E+03	--	--	na	8.0E+04	--	--	na	8.0E+04
1,2-Dichlorobenzene	0	--	--	na	1.7E+04	--	--	na	8.5E+05	--	--	na	1.7E+03	--	--	na	8.5E+04	--	--	na	8.5E+04
1,3-Dichlorobenzene	0	--	--	na	2.6E+03	--	--	na	1.3E+05	--	--	na	2.6E+02	--	--	na	1.3E+04	--	--	na	1.3E+04
1,4-Dichlorobenzene	0	--	--	na	2.6E+03	--	--	na	1.3E+05	--	--	na	2.6E+02	--	--	na	1.3E+04	--	--	na	1.3E+04
3,3-Dichlorobenzidine [C]	0	--	--	na	7.7E-01	--	--	na	3.9E+01	--	--	na	7.7E-02	--	--	na	3.9E+00	--	--	na	3.9E+00
Dichlorobromomethane [C]	0	--	--	na	4.6E+02	--	--	na	2.3E+04	--	--	na	4.6E+01	--	--	na	2.3E+03	--	--	na	2.3E+03
1,2-Dichloroethane [C]	0	--	--	na	9.9E+02	--	--	na	5.0E+04	--	--	na	9.9E+01	--	--	na	5.0E+03	--	--	na	5.0E+03
1,1-Dichloroethylene	0	--	--	na	1.7E+04	--	--	na	8.5E+05	--	--	na	1.7E+03	--	--	na	8.5E+04	--	--	na	8.5E+04
1,2-trans-dichloroethylene	0	--	--	na	1.4E+05	--	--	na	7.0E+06	--	--	na	1.4E+04	--	--	na	7.0E+05	--	--	na	7.0E+05
2,4-Dichlorophenol	0	--	--	na	7.9E+02	--	--	na	4.0E+04	--	--	na	7.9E+01	--	--	na	4.0E+03	--	--	na	4.0E+03
2,4-Dichlorophenoxy acetic acid (2,4-D)	0	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--
1,2-Dichloropropane [C]	0	--	--	na	3.9E+02	--	--	na	2.0E+04	--	--	na	3.9E+01	--	--	na	2.0E+03	--	--	na	2.0E+03
1,3-Dichloropropene	0	--	--	na	1.7E+03	--	--	na	8.5E+04	--	--	na	1.7E+02	--	--	na	8.5E+03	--	--	na	8.5E+03
Dieldrin [C]	0	2.4E-01	5.6E-02	na	1.4E-03	4.8E-01	2.8E+00	na	7.0E-02	6.0E-02	1.4E-02	na	1.4E-04	1.2E-01	7.0E-01	na	7.0E-03	1.2E-01	7.0E-01	na	7.0E-03
Diethyl Phthalate	0	--	--	na	1.2E+05	--	--	na	6.0E+06	--	--	na	1.2E+04	--	--	na	6.0E+05	--	--	na	6.0E+05
Di-2-Ethylhexyl Phthalate [C]	0	--	--	na	5.9E+01	--	--	na	3.0E+03	--	--	na	5.9E+00	--	--	na	3.0E+02	--	--	na	3.0E+02
2,4-Dimethylphenol	0	--	--	na	2.3E+03	--	--	na	1.2E+05	--	--	na	2.3E+02	--	--	na	1.2E+04	--	--	na	1.2E+04
Dimethyl Phthalate	0	--	--	na	2.9E+06	--	--	na	1.5E+08	--	--	na	2.9E+05	--	--	na	1.5E+07	--	--	na	1.5E+07
Di-n-Butyl Phthalate	0	--	--	na	1.2E+04	--	--	na	6.0E+05	--	--	na	1.2E+03	--	--	na	6.0E+04	--	--	na	6.0E+04
2,4 Dinitrophenol	0	--	--	na	1.4E+04	--	--	na	7.0E+05	--	--	na	1.4E+03	--	--	na	7.0E+04	--	--	na	7.0E+04
2-Methyl-4,6-Dinitrophenol	0	--	--	na	7.65E+02	--	--	na	3.8E+04	--	--	na	7.7E+01	--	--	na	3.8E+03	--	--	na	3.8E+03
2,4-Dinitrotoluene [C]	0	--	--	na	9.1E+01	--	--	na	4.6E+03	--	--	na	9.1E+00	--	--	na	4.6E+02	--	--	na	4.6E+02
Dioxin (2,3,7,8-tetrachlorodibenzo-p-dioxin) (ppq)	0	--	--	na	1.2E-06	--	--	na	na	--	--	na	1.2E-07	--	--	na	1.2E-07	--	--	na	na
1,2-Diphenylhydrazine [C]	0	--	--	na	5.4E+00	--	--	na	2.7E+02	--	--	na	5.4E-01	--	--	na	2.7E+01	--	--	na	2.7E+01
Alpha-Endosulfan	0	2.2E-01	5.6E-02	na	2.4E+02	4.4E-01	2.8E+00	na	1.2E+04	5.5E-02	1.4E-02	na	2.4E+01	1.1E-01	7.0E-01	na	1.2E+03	1.1E-01	7.0E-01	na	1.2E+03
Beta-Endosulfan	0	2.2E-01	5.6E-02	na	2.4E+02	4.4E-01	2.8E+00	na	1.2E+04	5.5E-02	1.4E-02	na	2.4E+01	1.1E-01	7.0E-01	na	1.2E+03	1.1E-01	7.0E-01	na	1.2E+03
Endosulfan Sulfate	0	--	--	na	2.4E+02	--	--	na	1.2E+04	--	--	na	2.4E+01	--	--	na	1.2E+03	--	--	na	1.2E+03
Endrin	0	8.6E-02	3.6E-02	na	8.1E-01	1.7E-01	1.8E+00	na	4.1E+01	2.2E-02	9.0E-03	na	8.1E-02	4.3E-02	4.5E-01	na	4.1E+00	4.3E-02	4.5E-01	na	4.1E+00
Endrin Aldehyde	0	--	--	na	8.1E-01	--	--	na	4.1E+01	--	--	na	8.1E-02	--	--	na	4.1E+00	--	--	na	4.1E+00

Parameter	Background	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations			
(ug/l unless noted)	Conc.	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
Ethylbenzene	0	--	--	na	2.9E+04	--	--	na	1.5E+06	--	--	na	2.9E+03	--	--	na	1.5E+05	--	--	na	1.5E+05
Fluoranthene	0	--	--	na	3.7E+02	--	--	na	1.9E+04	--	--	na	3.7E+01	--	--	na	1.9E+03	--	--	na	1.9E+03
Fluorene	0	--	--	na	1.4E+04	--	--	na	7.0E+05	--	--	na	1.4E+03	--	--	na	7.0E+04	--	--	na	7.0E+04
Foaming Agents	0	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--
Guthion	0	--	1.0E-02	na	--	--	5.0E-01	na	--	--	2.5E-03	na	--	--	1.3E-01	na	--	--	1.3E-01	na	--
Heptachlor [C]	0	5.2E-01	3.8E-03	na	2.1E-03	1.0E+00	1.9E-01	na	1.1E-01	1.3E-01	9.5E-04	na	2.1E-04	2.6E-01	4.8E-02	na	1.1E-02	2.6E-01	4.8E-02	na	1.1E-02
Heptachlor Epoxide [C]	0	5.2E-01	3.8E-03	na	1.1E-03	1.0E+00	1.9E-01	na	5.5E-02	1.3E-01	9.5E-04	na	1.1E-04	2.6E-01	4.8E-02	na	5.5E-03	2.6E-01	4.8E-02	na	5.5E-03
Hexachlorobenzene [C]	0	--	--	na	7.7E-03	--	--	na	3.9E-01	--	--	na	7.7E-04	--	--	na	3.9E-02	--	--	na	3.9E-02
Hexachlorobutadiene [C]	0	--	--	na	5.0E+02	--	--	na	2.5E+04	--	--	na	5.0E+01	--	--	na	2.5E+03	--	--	na	2.5E+03
Hexachlorocyclohexane Alpha-BHC [C]	0	--	--	na	1.3E-01	--	--	na	6.5E+00	--	--	na	1.3E-02	--	--	na	6.5E-01	--	--	na	6.5E-01
Hexachlorocyclohexane Beta-BHC [C]	0	--	--	na	4.6E-01	--	--	na	2.3E+01	--	--	na	4.6E-02	--	--	na	2.3E+00	--	--	na	2.3E+00
Hexachlorocyclohexane Gamma-BHC [C] (Lindane)	0	9.5E-01	na	na	6.3E-01	1.9E+00	--	na	3.2E+01	2.4E-01	--	na	6.3E-02	4.8E-01	--	na	3.2E+00	4.8E-01	--	na	3.2E+00
Hexachlorocyclopentadiene	0	--	--	na	1.7E+04	--	--	na	8.5E+05	--	--	na	1.7E+03	--	--	na	8.5E+04	--	--	na	8.5E+04
Hexachloroethane [C]	0	--	--	na	8.9E+01	--	--	na	4.5E+03	--	--	na	8.9E+00	--	--	na	4.5E+02	--	--	na	4.5E+02
Hydrogen Sulfide	0	--	2.0E+00	na	--	--	1.0E+02	na	--	--	5.0E-01	na	--	--	2.5E+01	na	--	--	2.5E+01	na	--
Indeno (1,2,3-cd) pyrene [C]	0	--	--	na	4.9E-01	--	--	na	2.5E+01	--	--	na	4.9E-02	--	--	na	2.5E+00	--	--	na	2.5E+00
Iron	0	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--
Isophorone [C]	0	--	--	na	2.6E+04	--	--	na	1.3E+06	--	--	na	2.6E+03	--	--	na	1.3E+05	--	--	na	1.3E+05
Kepone	0	--	0.0E+00	na	--	--	0.0E+00	na	--	--	0.0E+00	na	--	--	0.0E+00	na	--	--	0.0E+00	na	--
Lead	0	4.7E+01	6.1E+00	na	--	9.3E+01	3.1E+02	na	--	1.2E+01	1.5E+00	na	--	2.3E+01	7.7E+01	na	--	2.3E+01	7.7E+01	na	--
Malathion	0	--	1.0E-01	na	--	--	5.0E+00	na	--	--	2.5E-02	na	--	--	1.3E+00	na	--	--	1.3E+00	na	--
Manganese	0	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--
Mercury	0	1.4E+00	7.7E-01	na	5.1E-02	2.8E+00	3.9E+01	na	2.6E+00	3.5E-01	1.9E-01	na	5.1E-03	7.0E-01	9.6E+00	na	2.6E-01	7.0E-01	9.6E+00	na	2.6E-01
Methyl Bromide	0	--	--	na	4.0E+03	--	--	na	2.0E+05	--	--	na	4.0E+02	--	--	na	2.0E+04	--	--	na	2.0E+04
Methoxychlor	0	--	3.0E-02	na	--	--	1.5E+00	na	--	--	7.5E-03	na	--	--	3.8E-01	na	--	--	3.8E-01	na	--
Mirex	0	--	0.0E+00	na	--	--	0.0E+00	na	--	--	0.0E+00	na	--	--	0.0E+00	na	--	--	0.0E+00	na	--
Monochlorobenzene	0	--	--	na	2.1E+04	--	--	na	1.1E+06	--	--	na	2.1E+03	--	--	na	1.1E+05	--	--	na	1.1E+05
Nickel	0	9.8E+01	1.2E+01	na	4.6E+03	2.0E+02	6.0E+02	na	2.3E+05	2.5E+01	3.0E+00	na	4.6E+02	4.9E+01	1.5E+02	na	2.3E+04	4.9E+01	1.5E+02	na	2.3E+04
Nitrate (as N)	0	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--
Nitrobenzene	0	--	--	na	1.9E+03	--	--	na	9.5E+04	--	--	na	1.9E+02	--	--	na	9.5E+03	--	--	na	9.5E+03
N-Nitrosodimethylamine [C]	0	--	--	na	8.1E+01	--	--	na	4.1E+03	--	--	na	8.1E+00	--	--	na	4.1E+02	--	--	na	4.1E+02
N-Nitrosodiphenylamine [C]	0	--	--	na	1.6E+02	--	--	na	8.0E+03	--	--	na	1.6E+01	--	--	na	8.0E+02	--	--	na	8.0E+02
N-Nitrosodi-n-propylamine [C]	0	--	--	na	1.4E+01	--	--	na	7.0E+02	--	--	na	1.4E+00	--	--	na	7.0E+01	--	--	na	7.0E+01
Parathion	0	6.5E-02	1.3E-02	na	--	1.3E-01	6.5E-01	na	--	1.6E-02	3.3E-03	na	--	3.3E-02	1.6E-01	na	--	3.3E-02	1.6E-01	na	--
PCB-1016	0	--	1.4E-02	na	--	--	7.0E-01	na	--	--	3.5E-03	na	--	--	1.8E-01	na	--	--	1.8E-01	na	--
PCB-1221	0	--	1.4E-02	na	--	--	7.0E-01	na	--	--	3.5E-03	na	--	--	1.8E-01	na	--	--	1.8E-01	na	--
PCB-1232	0	--	1.4E-02	na	--	--	7.0E-01	na	--	--	3.5E-03	na	--	--	1.8E-01	na	--	--	1.8E-01	na	--
PCB-1242	0	--	1.4E-02	na	--	--	7.0E-01	na	--	--	3.5E-03	na	--	--	1.8E-01	na	--	--	1.8E-01	na	--
PCB-1248	0	--	1.4E-02	na	--	--	7.0E-01	na	--	--	3.5E-03	na	--	--	1.8E-01	na	--	--	1.8E-01	na	--
PCB-1254	0	--	1.4E-02	na	--	--	7.0E-01	na	--	--	3.5E-03	na	--	--	1.8E-01	na	--	--	1.8E-01	na	--
PCB-1260	0	--	1.4E-02	na	--	--	7.0E-01	na	--	--	3.5E-03	na	--	--	1.8E-01	na	--	--	1.8E-01	na	--
PCB Total [C]	0	--	--	na	1.7E-03	--	--	na	8.5E-02	--	--	na	1.7E-04	--	--	na	8.5E-03	--	--	na	8.5E-03

Parameter	Background	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations			
(ug/l unless noted)	Conc.	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
Pentachlorophenol [C]	0	2.6E+00	1.5E+00	na	8.2E+01	5.1E+00	7.5E+01	na	4.1E+03	6.4E-01	3.7E-01	na	8.2E+00	1.3E+00	1.9E+01	na	4.1E+02	**1.3E+00**	**1.9E+01**	**na**	**4.1E+02**
Phenol	0	--	--	na	4.6E+06	--	--	na	2.3E+08	--	--	na	4.6E+05	--	--	na	2.3E+07	--	--	**na**	**2.3E+07**
Pyrene	0	--	--	na	1.1E+04	--	--	na	5.5E+05	--	--	na	1.1E+03	--	--	na	5.5E+04	--	--	**na**	**5.5E+04**
Radionuclides (pCi/l except Beta/Photon)	0	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--	--	--	**na**	--
Gross Alpha Activity	0	--	--	na	1.5E+01	--	--	na	7.5E+02	--	--	na	1.5E+00	--	--	na	7.5E+01	--	--	**na**	**7.5E+01**
Beta and Photon Activity (mrem/yr)	0	--	--	na	4.0E+00	--	--	na	2.0E+02	--	--	na	4.0E-01	--	--	na	2.0E+01	--	--	**na**	**2.0E+01**
Strontium-90	0	--	--	na	8.0E+00	--	--	na	4.0E+02	--	--	na	8.0E-01	--	--	na	4.0E+01	--	--	**na**	**4.0E+01**
Tritium	0	--	--	na	2.0E+04	--	--	na	1.0E+06	--	--	na	2.0E+03	--	--	na	1.0E+05	--	--	**na**	**1.0E+05**
Selenium	0	2.0E+01	5.0E+00	na	1.1E+04	4.0E+01	2.5E+02	na	5.5E+05	5.0E+00	1.3E+00	na	1.1E+03	1.0E+01	6.3E+01	na	5.5E+04	**1.0E+01**	**6.3E+01**	**na**	**5.5E+04**
Silver	0	9.8E-01	--	na	--	2.0E+00	--	na	--	2.4E-01	--	na	--	4.9E-01	--	na	--	**4.9E-01**	--	**na**	--
Sulfate	0	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--	--	--	**na**	--
1,1,2,2-Tetrachloroethane[C]	0	--	--	na	1.1E+02	--	--	na	5.5E+03	--	--	na	1.1E+01	--	--	na	5.5E+02	--	--	**na**	**5.5E+02**
Tetrachloroethylene[C]	0	--	--	na	8.9E+01	--	--	na	4.5E+03	--	--	na	8.9E+00	--	--	na	4.5E+02	--	--	**na**	**4.5E+02**
Thallium	0	--	--	na	6.3E+00	--	--	na	3.2E+02	--	--	na	6.3E-01	--	--	na	3.2E+01	--	--	**na**	**3.2E+01**
Toluene	0	--	--	na	2.0E+05	--	--	na	1.0E+07	--	--	na	2.0E+04	--	--	na	1.0E+06	--	--	**na**	**1.0E+06**
Total dissolved solids	0	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--	--	--	**na**	--
Toxaphene [C]	0	7.3E-01	2.0E-04	na	7.5E-03	1.5E+00	1.0E-02	na	3.8E-01	1.8E-01	5.0E-05	na	7.5E-04	3.7E-01	2.5E-03	na	3.8E-02	**3.7E-01**	**2.5E-03**	**na**	**3.8E-02**
Tributyltin	0	4.6E-01	6.3E-02	na	--	9.2E-01	3.2E+00	na	--	1.2E-01	1.6E-02	na	--	2.3E-01	7.9E-01	na	--	**2.3E-01**	**7.9E-01**	**na**	--
1,2,4-Trichlorobenzene	0	--	--	na	9.4E+02	--	--	na	4.7E+04	--	--	na	9.4E+01	--	--	na	4.7E+03	--	--	**na**	**4.7E+03**
1,1,2-Trichloroethane[C]	0	--	--	na	4.2E+02	--	--	na	2.1E+04	--	--	na	4.2E+01	--	--	na	2.1E+03	--	--	**na**	**2.1E+03**
Trichloroethylene [C]	0	--	--	na	8.1E+02	--	--	na	4.1E+04	--	--	na	8.1E+01	--	--	na	4.1E+03	--	--	**na**	**4.1E+03**
2,4,6-Trichlorophenol [C]	0	--	--	na	6.5E+01	--	--	na	3.3E+03	--	--	na	6.5E+00	--	--	na	3.3E+02	--	--	**na**	**3.3E+02**
2-(2,4,5-Trichlorophenoxy) propionic acid (Silvex)	0	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--	--	--	**na**	--
Vinyl Chloride[C]	0	--	--	na	6.1E+01	--	--	na	3.1E+03	--	--	na	6.1E+00	--	--	na	3.1E+02	--	--	**na**	**3.1E+02**
Zinc	0	6.3E+01	7.0E+01	na	6.9E+04	1.3E+02	3.5E+03	na	3.5E+06	1.6E+01	1.7E+01	na	6.9E+03	3.1E+01	8.7E+02	na	3.5E+05	**3.1E+01**	**8.7E+02**	**na**	**3.5E+05**

Notes:

1. All concentrations expressed as micrograms/liter (ug/l), unless noted otherwise
2. Discharge flow is highest monthly average or Form 2C maximum for Industries and design flow for Municipals
3. Metals measured as Dissolved, unless specified otherwise
4. "C" indicates a carcinogenic parameter
5. Regular WLAs are mass balances (minus background concentration) using the % of stream flow entered above under Mixing Information.
   Antidegradation WLAs are based upon a complete mix.
6. Antideg. Baseline = (0.25(WQC - background conc.) + background conc.) for acute and chronic
   = (0.1(WQC - background conc.) + background conc.) for human health
7. WLAs established at the following stream flows: 1Q10 for Acute, 30Q10 for Chronic Ammonia, 7Q10 for Other Chronic, 30Q5 for Non-carcinogens,
   Harmonic Mean for Carcinogens, and Annual Average for Dioxin. Mixing ratios may be substituted for stream flows where appropriate.

Metal	Target Value (SSTV)
Antimony	2.2E+04
Arsenic	6.8E+01
Barium	na
Cadmium	3.4E-01
Chromium III	6.2E+01
Chromium VI	3.2E+00
Copper	1.3E+00
Iron	na
Lead	9.3E+00
Manganese	na
Mercury	2.6E-01
Nickel	2.0E+01
Selenium	4.0E+00
Silver	2.0E-01
Zinc	1.3E+01

Note: do not use QL's lower than the minimum QL's provided in agency guidance

FRESHWATER
WATER QUALITY CRITERIA / WASTELOAD ALLOCATION ANALYSIS

For TDS Allocations only

Facility Name: Mt. Zion and Rustic WTP Permit No.: VA0085936

Receiving Stream: Morris Creek Version: OWP Guidance Memo 00-2011 (8/24/00)

Stream Information		Stream Flows		Mixing Information		Effluent Information	
Mean Hardness (as CaCO3) =	54 mg/L	1Q10 (Annual) =	0.009 MGD	Annual - 1Q10 Mix =	100 %	Mean Hardness (as CaCO3) =	42 mg/L
90% Temperature (Annual) =	26.2 deg C	7Q10 (Annual) =	0.441 MGD	- 7Q10 Mix =	100 %	90% Temp (Annual) =	28 deg C
90% Temperature (Wet season) =	4.1 deg C	30Q10 (Annual) =	MGD	- 30Q10 Mix =	100 %	90% Temp (Wet season) =	deg C
90% Maximum pH =	6.6 SU	1Q10 (Wet season) =	MGD	Wet Season - 1Q10 Mix =	100 %	90% Maximum pH =	7.2 SU
10% Maximum pH =	5.5 SU	30Q10 (Wet season) =	MGD	- 30Q10 Mix =	100 %	10% Maximum pH =	6.9 SU
Tier Designation (1 or 2) =	2	30Q5 =	0.441 MGD			Discharge Flow =	0.009 MGD
Public Water Supply (PWS) Y/N? =	y	Harmonic Mean =	0.441 MGD				
Trout Present Y/N? =	n	Annual Average =	MGD				
Early Life Stages Present Y/N? =	y						

Parameter	Background	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				**Most Limiting Allocations**			
(ug/l unless noted)	Conc.	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	**Acute**	**Chronic**	**HH (PWS)**	**HH**
Acenapthene	0	--	--	1.2E+03	2.7E+03	--	--	6.0E+04	1.4E+05	--	--	1.2E+02	2.7E+02	--	--	6.0E+03	1.4E+04	--	--	**6.0E+03**	**1.4E+04**
Acrolein	0	--	--	3.2E+02	7.8E+02	--	--	1.6E+04	3.9E+04	--	--	3.2E+01	7.8E+01	--	--	1.6E+03	3.9E+03	--	--	**1.6E+03**	**3.9E+03**
Acrylonitrile[C]	0	--	--	5.9E-01	6.6E+00	--	--	3.0E+01	3.3E+02	--	--	5.9E-02	6.6E-01	--	--	3.0E+00	3.3E+01	--	--	**3.0E+00**	**3.3E+01**
Aldrin [C]	0	3.0E+00	--	1.3E-03	1.4E-03	6.0E+00	--	6.5E-02	7.0E-02	7.5E-01	--	1.3E-04	1.4E-04	1.5E+00	--	6.5E-03	7.0E-03	**1.5E+00**	--	**6.5E-03**	**7.0E-03**
Ammonia-N (mg/l) (Yearly)	0	4.19E+01	2.26E+00	--	--	8.4E+01	2.3E+00	--	--	1.05E+01	5.65E-01	--	--	2.1E+01	5.6E-01	--	--	**2.1E+01**	**5.6E-01**	--	--
Ammonia-N (mg/l) (High Flow)	0	2.95E+01	5.39E+00	--	--	3.0E+01	5.4E+00	--	--	7.38E+00	1.35E+00	--	--	7.4E+00	1.3E+00	--	--	**7.4E+00**	**1.3E+00**	--	--
Anthracene	0	--	--	9.6E+03	1.1E+05	--	--	4.8E+05	5.5E+06	--	--	9.6E+02	1.1E+04	--	--	4.8E+04	5.5E+05	--	--	**4.8E+04**	**5.5E+05**
Antimony	0	--	--	1.4E+01	4.3E+03	--	--	7.0E+02	2.2E+05	--	--	1.4E+00	4.3E+02	--	--	7.0E+01	2.2E+04	--	--	**7.0E+01**	**2.2E+04**
Arsenic	0	3.4E+02	1.5E+02	1.0E+01	--	6.8E+02	7.5E+03	5.0E+02	--	8.5E+01	3.8E+01	1.0E+00	--	1.7E+02	1.9E+03	5.0E+01	--	**1.7E+02**	**1.9E+03**	**5.0E+01**	--
Barium	0	--	--	2.0E+03	--	--	--	1.0E+05	--	--	--	2.0E+02	--	--	--	1.0E+04	--	--	--	**1.0E+04**	--
Benzene [C]	0	--	--	1.2E+01	7.1E+02	--	--	6.0E+02	3.6E+04	--	--	1.2E+00	7.1E+01	--	--	6.0E+01	3.6E+03	--	--	**6.0E+01**	**3.6E+03**
Benzidine[C]	0	--	--	1.2E-03	5.4E-03	--	--	6.0E-02	2.7E-01	--	--	1.2E-04	5.4E-04	--	--	6.0E-03	2.7E-02	--	--	**6.0E-03**	**2.7E-02**
Benzo (a) anthracene [C]	0	--	--	4.4E-02	4.9E-01	--	--	2.2E+00	2.5E+01	--	--	4.4E-03	4.9E-02	--	--	2.2E-01	2.5E+00	--	--	**2.2E-01**	**2.5E+00**
Benzo (b) fluoranthene [C]	0	--	--	4.4E-02	4.9E-01	--	--	2.2E+00	2.5E+01	--	--	4.4E-03	4.9E-02	--	--	2.2E-01	2.5E+00	--	--	**2.2E-01**	**2.5E+00**
Benzo (k) fluoranthene [C]	0	--	--	4.4E-02	4.9E-01	--	--	2.2E+00	2.5E+01	--	--	4.4E-03	4.9E-02	--	--	2.2E-01	2.5E+00	--	--	**2.2E-01**	**2.5E+00**
Benzo (a) pyrene [C]	0	--	--	4.4E-02	4.9E-01	--	--	2.2E+00	2.5E+01	--	--	4.4E-03	4.9E-02	--	--	2.2E-01	2.5E+00	--	--	**2.2E-01**	**2.5E+00**
Bis2-Chloroethyl Ether	0	--	--	3.1E-01	1.4E+01	--	--	1.6E+01	7.0E+02	--	--	3.1E-02	1.4E+00	--	--	1.6E+00	7.0E+01	--	--	**1.6E+00**	**7.0E+01**
Bis2-Chloroisopropyl Ether	0	--	--	1.4E+03	1.7E+05	--	--	7.0E+04	8.5E+06	--	--	1.4E+02	1.7E+04	--	--	7.0E+03	8.5E+05	--	--	**7.0E+03**	**8.5E+05**
Bromoform [C]	0	--	--	4.4E+01	3.6E+03	--	--	2.2E+03	1.8E+05	--	--	4.4E+00	3.6E+02	--	--	2.2E+02	1.8E+04	--	--	**2.2E+02**	**1.8E+04**
Butylbenzylphthalate	0	--	--	3.0E+03	5.2E+03	--	--	1.5E+05	2.6E+05	--	--	3.0E+02	5.2E+02	--	--	1.5E+04	2.6E+04	--	--	**1.5E+04**	**2.6E+04**
Cadmium	0	1.7E+00	7.0E-01	5.0E+00	--	3.4E+00	3.5E+01	2.5E+02	--	4.3E-01	1.7E-01	5.0E-01	--	8.6E-01	8.7E+00	2.5E+01	--	**8.6E-01**	**8.7E+00**	**2.5E+01**	--
Carbon Tetrachloride [C]	0	--	--	2.5E+00	4.4E+01	--	--	1.3E+02	2.2E+03	--	--	2.5E-01	4.4E+00	--	--	1.3E+01	2.2E+02	--	--	**1.3E+01**	**2.2E+02**
Chlordane [C]	0	2.4E+00	4.3E-03	2.1E-02	2.2E-02	4.8E+00	2.2E-01	1.1E+00	1.1E+00	6.0E-01	1.1E-03	2.1E-03	2.2E-03	1.2E+00	5.4E-02	1.1E-01	1.1E-01	**1.2E+00**	**5.4E-02**	**1.1E-01**	**1.1E-01**
Chloride	0	8.6E+05	2.3E+05	2.5E+05	--	1.7E+06	1.2E+07	1.3E+07	--	2.2E+05	5.8E+04	2.5E+04	--	4.3E+05	2.9E+06	1.3E+06	--	**4.3E+05**	**2.9E+06**	**1.3E+06**	--
TRC	0	1.9E+01	1.1E+01	--	--	3.8E+01	5.5E+02	--	--	4.8E+00	2.8E+00	--	--	9.5E+00	1.4E+02	--	--	**9.5E+00**	**1.4E+02**	--	--
Chlorobenzene	0	--	--	6.8E+02	2.1E+04	--	--	3.4E+04	1.1E+06	--	--	6.8E+01	2.1E+03	--	--	3.4E+03	1.1E+05	--	--	**3.4E+03**	**1.1E+05**

Parameter	Background	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations			
(ug/l unless noted)	Conc.	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
Chlorodibromomethane [C]	0	--	--	4.1E+00	3.4E+02	--	--	2.1E+02	1.7E+04	--	--	4.1E-01	3.4E+01	--	--	2.1E+01	1.7E+03	--	--	**2.1E+01**	**1.7E+03**
Chloroform [C]	0	--	--	3.5E+02	2.9E+04	--	--	1.8E+04	1.5E+06	--	--	3.5E+01	2.9E+03	--	--	1.8E+03	1.5E+05	--	--	**1.8E+03**	**1.5E+05**
2-Chloronaphthalene	0	--	--	1.7E+03	4.3E+03	--	--	8.5E+04	2.2E+05	--	--	1.7E+02	4.3E+02	--	--	8.5E+03	2.2E+04	--	--	**8.5E+03**	**2.2E+04**
2-Chlorophenol	0	--	--	1.2E+02	4.0E+02	--	--	6.0E+03	2.0E+04	--	--	1.2E+01	4.0E+01	--	--	6.0E+02	2.0E+03	--	--	**6.0E+02**	**2.0E+03**
Chlorpyrifos	0	8.3E-02	4.1E-02	--	--	1.7E-01	2.1E+00	--	--	2.1E-02	1.0E-02	--	--	4.2E-02	5.1E-01	--	--	**4.2E-02**	**5.1E-01**	--	--
Chromium III	0	3.1E+02	4.5E+01	--	--	6.2E+02	2.2E+03	--	--	7.8E+01	1.1E+01	--	--	1.6E+02	5.6E+02	--	--	**1.6E+02**	**5.6E+02**	--	--
Chromium VI	0	1.6E+01	1.1E+01	--	--	3.2E+01	5.5E+02	--	--	4.0E+00	2.8E+00	--	--	8.0E+00	1.4E+02	--	--	**8.0E+00**	**1.4E+02**	--	--
Chromium, Total	0	--	--	1.0E+02	--	--	--	5.0E+03	--	--	--	1.0E+01	--	--	--	5.0E+02	--	--	--	**5.0E+02**	--
Chrysene [C]	0	--	--	4.4E-02	4.9E-01	--	--	2.2E+00	2.5E+01	--	--	4.4E-03	4.9E-02	--	--	2.2E-01	2.5E+00	--	--	**2.2E-01**	**2.5E+00**
Copper	0	6.7E+00	5.3E+00	1.3E+03	--	1.3E+01	2.6E+02	6.5E+04	--	1.7E+00	1.3E+00	1.3E+02	--	3.4E+00	6.6E+01	6.5E+03	--	**3.4E+00**	**6.6E+01**	**6.5E+03**	--
Cyanide	0	2.2E+01	5.2E+00	7.0E+02	2.2E+05	4.4E+01	2.6E+02	3.5E+04	1.1E+07	5.5E+00	1.3E+00	7.0E+01	2.2E+04	1.1E+01	6.5E+01	3.5E+03	1.1E+06	**1.1E+01**	**6.5E+01**	**3.5E+03**	**1.1E+06**
DDD [C]	0	--	--	8.3E-03	8.4E-03	--	--	4.2E-01	4.2E-01	--	--	8.3E-04	8.4E-04	--	--	4.2E-02	4.2E-02	--	--	**4.2E-02**	**4.2E-02**
DDE [C]	0	--	--	5.9E-03	5.9E-03	--	--	3.0E-01	3.0E-01	--	--	5.9E-04	5.9E-04	--	--	3.0E-02	3.0E-02	--	--	**3.0E-02**	**3.0E-02**
DDT [C]	0	1.1E+00	1.0E-03	5.9E-03	5.9E-03	2.2E+00	5.0E-02	3.0E-01	3.0E-01	2.8E-01	2.5E-04	5.9E-04	5.9E-04	5.5E-01	1.3E-02	3.0E-02	3.0E-02	**5.5E-01**	**1.3E-02**	**3.0E-02**	**3.0E-02**
Demeton	0	--	1.0E-01	--	--	--	5.0E+00	--	--	--	2.5E-02	--	--	--	1.3E+00	--	--	--	**1.3E+00**	--	--
Dibenz(a,h)anthracene [C]	0	--	--	4.4E-02	4.9E-01	--	--	2.2E+00	2.5E+01	--	--	4.4E-03	4.9E-02	--	--	2.2E-01	2.5E+00	--	--	**2.2E-01**	**2.5E+00**
Dibutyl phthalate	0	--	--	2.7E+03	1.2E+04	--	--	1.4E+05	6.0E+05	--	--	2.7E+02	1.2E+03	--	--	1.4E+04	6.0E+04	--	--	**1.4E+04**	**6.0E+04**
Dichloromethane (Methylene Chloride) [C]	0	--	--	4.7E+01	1.6E+04	--	--	2.4E+03	8.0E+05	--	--	4.7E+00	1.6E+03	--	--	2.4E+02	8.0E+04	--	--	**2.4E+02**	**8.0E+04**
1,2-Dichlorobenzene	0	--	--	2.7E+03	1.7E+04	--	--	1.4E+05	8.5E+05	--	--	2.7E+02	1.7E+03	--	--	1.4E+04	8.5E+04	--	--	**1.4E+04**	**8.5E+04**
1,3-Dichlorobenzene	0	--	--	4.0E+02	2.6E+03	--	--	2.0E+04	1.3E+05	--	--	4.0E+01	2.6E+02	--	--	2.0E+03	1.3E+04	--	--	**2.0E+03**	**1.3E+04**
1,4-Dichlorobenzene	0	--	--	4.0E+02	2.6E+03	--	--	2.0E+04	1.3E+05	--	--	4.0E+01	2.6E+02	--	--	2.0E+03	1.3E+04	--	--	**2.0E+03**	**1.3E+04**
3,3-Dichlorobenzidine [C]	0	--	--	4.0E-01	7.7E-01	--	--	2.0E+01	3.9E+01	--	--	4.0E-02	7.7E-02	--	--	2.0E+00	3.9E+00	--	--	**2.0E+00**	**3.9E+00**
Dichlorobromomethane [C]	0	--	--	5.6E+00	4.6E+02	--	--	2.8E+02	2.3E+04	--	--	5.6E-01	4.6E+01	--	--	2.8E+01	2.3E+03	--	--	**2.8E+01**	**2.3E+03**
1,2-Dichloroethane [C]	0	--	--	3.8E+00	9.9E+02	--	--	1.9E+02	5.0E+04	--	--	3.8E-01	9.9E+01	--	--	1.9E+01	5.0E+03	--	--	**1.9E+01**	**5.0E+03**
1,1-Dichloroethylene	0	--	--	3.1E+02	1.7E+04	--	--	1.6E+04	8.5E+05	--	--	3.1E+01	1.7E+03	--	--	1.6E+03	8.5E+04	--	--	**1.6E+03**	**8.5E+04**
1,2-trans-dichloroethylene	0	--	--	7.0E+02	1.4E+05	--	--	3.5E+04	7.0E+06	--	--	7.0E+01	1.4E+04	--	--	3.5E+03	7.0E+05	--	--	**3.5E+03**	**7.0E+05**
2,4-Dichlorophenol	0	--	--	9.3E+01	7.9E+02	--	--	4.7E+03	4.0E+04	--	--	9.3E+00	7.9E+01	--	--	4.7E+02	4.0E+03	--	--	**4.7E+02**	**4.0E+03**
2,4-Dichlorophenoxy acetic acid (2,4-D)	0	--	--	1.0E+02	--	--	--	5.0E+03	--	--	--	1.0E+01	--	--	--	5.0E+02	--	--	--	**5.0E+02**	--
1,2-Dichloropropane [C]	0	--	--	5.2E+00	3.9E+02	--	--	2.6E+02	2.0E+04	--	--	5.2E-01	3.9E+01	--	--	2.6E+01	2.0E+03	--	--	**2.6E+01**	**2.0E+03**
1,3-Dichloropropene	0	--	--	1.0E+01	1.7E+03	--	--	5.0E+02	8.5E+04	--	--	1.0E+00	1.7E+02	--	--	5.0E+01	8.5E+03	--	--	**5.0E+01**	**8.5E+03**
Dieldrin [C]	0	2.4E-01	5.6E-02	1.4E-03	1.4E-03	4.8E-01	2.8E+00	7.0E-02	7.0E-02	6.0E-02	1.4E-02	1.4E-04	1.4E-04	1.2E-01	7.0E-01	7.0E-03	7.0E-03	**1.2E-01**	**7.0E-01**	**7.0E-03**	**7.0E-03**
Diethyl Phthalate	0	--	--	2.3E+04	1.2E+05	--	--	1.2E+06	6.0E+06	--	--	2.3E+03	1.2E+04	--	--	1.2E+05	6.0E+05	--	--	**1.2E+05**	**6.0E+05**
Di-2-Ethylhexyl Phthalate [C]	0	--	--	1.8E+01	5.9E+01	--	--	9.0E+02	3.0E+03	--	--	1.8E+00	5.9E+00	--	--	9.0E+01	3.0E+02	--	--	**9.0E+01**	**3.0E+02**
2,4-Dimethylphenol	0	--	--	5.4E+02	2.3E+03	--	--	2.7E+04	1.2E+05	--	--	5.4E+01	2.3E+02	--	--	2.7E+03	1.2E+04	--	--	**2.7E+03**	**1.2E+04**
Dimethyl Phthalate	0	--	--	3.1E+05	2.9E+06	--	--	1.6E+07	1.5E+08	--	--	3.1E+04	2.9E+05	--	--	1.6E+06	1.5E+07	--	--	**1.6E+06**	**1.5E+07**
Di-n-Butyl Phthalate	0	--	--	2.7E+03	1.2E+04	--	--	1.4E+05	6.0E+05	--	--	2.7E+02	1.2E+03	--	--	1.4E+04	6.0E+04	--	--	**1.4E+04**	**6.0E+04**
2,4 Dinitrophenol	0	--	--	7.0E+01	1.4E+04	--	--	3.5E+03	7.0E+05	--	--	7.0E+00	1.4E+03	--	--	3.5E+02	7.0E+04	--	--	**3.5E+02**	**7.0E+04**
2-Methyl-4,6-Dinitrophenol	0	--	--	1.3E+01	7.65E+02	--	--	6.7E+02	3.8E+04	--	--	1.3E+00	7.7E+01	--	--	6.7E+01	3.8E+03	--	--	**6.7E+01**	**3.8E+03**
2,4-Dinitrotoluene [C]	0	--	--	1.1E+00	9.1E+01	--	--	5.5E+01	4.6E+03	--	--	1.1E-01	9.1E+00	--	--	5.5E+00	4.6E+02	--	--	**5.5E+00**	**4.6E+02**
Dioxin (2,3,7,8-tetrachlorodibenzo-p-dioxin) (ppq)	0	--	--	1.2E-06	1.2E-06	--	--	1.2E-06	1.2E-06	--	--	1.2E-07	1.2E-07	--	--	1.2E-07	1.2E-07	--	--	**1.2E-07**	**1.2E-07**
1,2-Diphenylhydrazine [C]	0	--	--	4.0E-01	5.4E+00	--	--	2.0E+01	2.7E+02	--	--	4.0E-02	5.4E-01	--	--	2.0E+00	2.7E+01	--	--	**2.0E+00**	**2.7E+01**
Alpha-Endosulfan	0	2.2E-01	5.6E-02	1.1E+02	2.4E+02	4.4E-01	2.8E+00	5.5E+03	1.2E+04	5.5E-02	1.4E-02	1.1E+01	2.4E+01	1.1E-01	7.0E-01	5.5E+02	1.2E+03	**1.1E-01**	**7.0E-01**	**5.5E+02**	**1.2E+03**
Beta-Endosulfan	0	2.2E-01	5.6E-02	1.1E+02	2.4E+02	4.4E-01	2.8E+00	5.5E+03	1.2E+04	5.5E-02	1.4E-02	1.1E+01	2.4E+01	1.1E-01	7.0E-01	5.5E+02	1.2E+03	**1.1E-01**	**7.0E-01**	**5.5E+02**	**1.2E+03**
Endosulfan Sulfate	0	--	--	1.1E+02	2.4E+02	--	--	5.5E+03	1.2E+04	--	--	1.1E+01	2.4E+01	--	--	5.5E+02	1.2E+03	--	--	**5.5E+02**	**1.2E+03**
Endrin	0	8.6E-02	3.6E-02	7.6E-01	8.1E-01	1.7E-01	1.8E+00	3.8E+01	4.1E+01	2.2E-02	9.0E-03	7.6E-02	8.1E-02	4.3E-02	4.5E-01	3.8E+00	4.1E+00	**4.3E-02**	**4.5E-01**	**3.8E+00**	**4.1E+00**
Endrin Aldehyde	0	--	--	7.6E-01	8.1E-01	--	--	3.8E+01	4.1E+01	--	--	7.6E-02	8.1E-02	--	--	3.8E+00	4.1E+00	--	--	**3.8E+00**	**4.1E+00**

Parameter	Background	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations			
(ug/l unless noted)	Conc.	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
Ethylbenzene	0	--	--	3.1E+03	2.9E+04	--	--	1.6E+05	1.5E+06	--	--	3.1E+02	2.9E+03	--	--	1.6E+04	1.5E+05	--	--	**1.6E+04**	**1.5E+05**
Fluoranthene	0	--	--	3.0E+02	3.7E+02	--	--	1.5E+04	1.9E+04	--	--	3.0E+01	3.7E+01	--	--	1.5E+03	1.9E+03	--	--	**1.5E+03**	**1.9E+03**
Fluorene	0	--	--	1.3E+03	1.4E+04	--	--	6.5E+04	7.0E+05	--	--	1.3E+02	1.4E+03	--	--	6.5E+03	7.0E+04	--	--	**6.5E+03**	**7.0E+04**
Foaming Agents	0	--	--	5.0E+02	--	--	--	2.5E+04	--	--	--	5.0E+01	--	--	--	2.5E+03	--	--	--	**2.5E+03**	--
Guthion	0	--	1.0E-02	--	--	--	5.0E-01	--	--	--	2.5E-03	--	--	--	1.3E-01	--	--	--	**1.3E-01**	--	--
Heptachlor [C]	0	5.2E-01	3.8E-03	2.1E-03	2.1E-03	1.0E+00	1.9E-01	1.1E-01	1.1E-01	1.3E-01	9.5E-04	2.1E-04	2.1E-04	2.6E-01	4.8E-02	1.1E-02	1.1E-02	**2.6E-01**	**4.8E-02**	**1.1E-02**	**1.1E-02**
Heptachlor Epoxide [C]	0	5.2E-01	3.8E-03	1.0E-03	1.1E-03	1.0E+00	1.9E-01	5.0E-02	5.5E-02	1.3E-01	9.5E-04	1.0E-04	1.1E-04	2.6E-01	4.8E-02	5.0E-03	5.5E-03	**2.6E-01**	**4.8E-02**	**5.0E-03**	**5.5E-03**
Hexachlorobenzene [C]	0	--	--	7.5E-03	7.7E-03	--	--	3.8E-01	3.9E-01	--	--	7.5E-04	7.7E-04	--	--	3.8E-02	3.9E-02	--	--	**3.8E-02**	**3.9E-02**
Hexachlorobutadiene [C]	0	--	--	4.4E+00	5.0E+02	--	--	2.2E+02	2.5E+04	--	--	4.4E-01	5.0E+01	--	--	2.2E+01	2.5E+03	--	--	**2.2E+01**	**2.5E+03**
Hexachlorocyclohexane Alpha-BHC [C]	0	--	--	3.9E-02	1.3E-01	--	--	2.0E+00	6.5E+00	--	--	3.9E-03	1.3E-02	--	--	2.0E-01	6.5E-01	--	--	**2.0E-01**	**6.5E-01**
Hexachlorocyclohexane Beta-BHC [C]	0	--	--	1.4E-01	4.6E-01	--	--	7.0E+00	2.3E+01	--	--	1.4E-02	4.6E-02	--	--	7.0E-01	2.3E+00	--	--	**7.0E-01**	**2.3E+00**
Hexachlorocyclohexane Gamma-BHC [C] (Lindane)	0	9.5E-01	--	1.9E-01	6.3E-01	1.9E+00	--	9.5E+00	3.2E+01	2.4E-01	--	1.9E-02	6.3E-02	4.8E-01	--	9.5E-01	3.2E+00	**4.8E-01**	--	**9.5E-01**	**3.2E+00**
Hexachlorocyclopentadiene	0	--	--	2.4E+02	1.7E+04	--	--	1.2E+04	8.5E+05	--	--	2.4E+01	1.7E+03	--	--	1.2E+03	8.5E+04	--	--	**1.2E+03**	**8.5E+04**
Hexachloroethane [C]	0	--	--	1.9E+01	8.9E+01	--	--	9.5E+02	4.5E+03	--	--	1.9E+00	8.9E+00	--	--	9.5E+01	4.5E+02	--	--	**9.5E+01**	**4.5E+02**
Hydrogen Sulfide	0	--	2.0E+00	--	--	--	1.0E+02	--	--	--	5.0E-01	--	--	--	2.5E+01	--	--	--	**2.5E+01**	--	--
Indeno (1,2,3-cd) pyrene [C]	0	--	--	4.4E-02	4.9E-01	--	--	2.2E+00	2.5E+01	--	--	4.4E-03	4.9E-02	--	--	2.2E-01	2.5E+00	--	--	**2.2E-01**	**2.5E+00**
Iron	0	--	--	3.0E+02	--	--	--	1.5E+04	--	--	--	3.0E+01	--	--	--	1.5E+03	--	--	--	**1.5E+03**	--
Isophorone [C]	0	--	--	3.6E+02	2.6E+04	--	--	1.8E+04	1.3E+06	--	--	3.6E+01	2.6E+03	--	--	1.8E+03	1.3E+05	--	--	**1.8E+03**	**1.3E+05**
Kepone	0	--	0.0E+00	--	--	--	0.0E+00	--	--	--	0.0E+00	--	--	--	0.0E+00	--	--	--	**0.0E+00**	--	--
Lead	0	4.7E+01	6.1E+00	1.5E+01	--	9.3E+01	3.1E+02	7.5E+02	--	1.2E+01	1.5E+00	1.5E+00	--	2.3E+01	7.7E+01	7.5E+01	--	**2.3E+01**	**7.7E+01**	**7.5E+01**	--
Malathion	0	--	1.0E-01	--	--	--	5.0E+00	--	--	--	2.5E-02	--	--	--	1.3E+00	--	--	--	**1.3E+00**	--	--
Manganese	0	--	--	5.0E+01	--	--	--	2.5E+03	--	--	--	5.0E+00	--	--	--	2.5E+02	--	--	--	**2.5E+02**	--
Mercury	0	1.4E+00	7.7E-01	5.0E-02	5.1E-02	2.8E+00	3.9E+01	2.5E+00	2.6E+00	3.5E-01	1.9E-01	5.0E-03	5.1E-03	7.0E-01	9.6E+00	2.5E-01	2.6E-01	**7.0E-01**	**9.6E+00**	**2.5E-01**	**2.6E-01**
Methyl Bromide	0	--	--	4.8E+01	4.0E+03	--	--	2.4E+03	2.0E+05	--	--	4.8E+00	4.0E+02	--	--	2.4E+02	2.0E+04	--	--	**2.4E+02**	**2.0E+04**
Methoxychlor	0	--	3.0E-02	1.0E+02	--	--	1.5E+00	5.0E+03	--	--	7.5E-03	1.0E+01	--	--	3.8E-01	5.0E+02	--	--	**3.8E-01**	**5.0E+02**	--
Mirex	0	--	0.0E+00	--	--	--	0.0E+00	--	--	--	0.0E+00	--	--	--	0.0E+00	--	--	--	**0.0E+00**	--	--
Monochlorobenzene	0	--	--	6.8E+02	2.1E+04	--	--	3.4E+04	1.1E+06	--	--	6.8E+01	2.1E+03	--	--	3.4E+03	1.1E+05	--	--	**3.4E+03**	**1.1E+05**
Nickel	0	9.8E+01	1.2E+01	6.1E+02	4.6E+03	2.0E+02	6.0E+02	3.1E+04	2.3E+05	2.5E+01	3.0E+00	6.1E+01	4.6E+02	4.9E+01	1.5E+02	3.1E+03	2.3E+04	**4.9E+01**	**1.5E+02**	**3.1E+03**	**2.3E+04**
Nitrate (as N)	0	--	--	1.0E+04	--	--	--	5.0E+05	--	--	--	1.0E+03	--	--	--	5.0E+04	--	--	--	**5.0E+04**	--
Nitrobenzene	0	--	--	1.7E+01	1.9E+03	--	--	8.5E+02	9.5E+04	--	--	1.7E+00	1.9E+02	--	--	8.5E+01	9.5E+03	--	--	**8.5E+01**	**9.5E+03**
N-Nitrosodimethylamine [C]	0	--	--	6.9E-03	8.1E+01	--	--	3.5E-01	4.1E+03	--	--	6.9E-04	8.1E+00	--	--	3.5E-02	4.1E+02	--	--	**3.5E-02**	**4.1E+02**
N-Nitrosodiphenylamine [C]	0	--	--	5.0E+01	1.6E+02	--	--	2.5E+03	8.0E+03	--	--	5.0E+00	1.6E+01	--	--	2.5E+02	8.0E+02	--	--	**2.5E+02**	**8.0E+02**
N-Nitrosodi-n-propylamine [C]	0	--	--	5.0E-02	1.4E+01	--	--	2.5E+00	7.0E+02	--	--	5.0E-03	1.4E+00	--	--	2.5E-01	7.0E+01	--	--	**2.5E-01**	**7.0E+01**
Parathion	0	6.5E-02	1.3E-02	--	--	1.3E-01	6.5E-01	--	--	1.6E-02	3.3E-03	--	--	3.3E-02	1.6E-01	--	--	**3.3E-02**	**1.6E-01**	--	--
PCB-1016	0	--	1.4E-02	--	--	--	7.0E-01	--	--	--	3.5E-03	--	--	--	1.8E-01	--	--	--	**1.8E-01**	--	--
PCB-1221	0	--	1.4E-02	--	--	--	7.0E-01	--	--	--	3.5E-03	--	--	--	1.8E-01	--	--	--	**1.8E-01**	--	--
PCB-1232	0	--	1.4E-02	--	--	--	7.0E-01	--	--	--	3.5E-03	--	--	--	1.8E-01	--	--	--	**1.8E-01**	--	--
PCB-1242	0	--	1.4E-02	--	--	--	7.0E-01	--	--	--	3.5E-03	--	--	--	1.8E-01	--	--	--	**1.8E-01**	--	--
PCB-1248	0	--	1.4E-02	--	--	--	7.0E-01	--	--	--	3.5E-03	--	--	--	1.8E-01	--	--	--	**1.8E-01**	--	--
PCB-1254	0	--	1.4E-02	--	--	--	7.0E-01	--	--	--	3.5E-03	--	--	--	1.8E-01	--	--	--	**1.8E-01**	--	--
PCB-1260	0	--	1.4E-02	--	--	--	7.0E-01	--	--	--	3.5E-03	--	--	--	1.8E-01	--	--	--	**1.8E-01**	--	--
PCB Total [C]	0	--	--	1.7E-03	1.7E-03	--	--	8.5E-02	8.5E-02	--	--	1.7E-04	1.7E-04	--	--	8.5E-03	8.5E-03	--	--	**8.5E-03**	**8.5E-03**

Parameter	Background	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				**Most Limiting Allocations**			
(ug/l unless noted)	Conc.	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	**Acute**	**Chronic**	**HH (PWS)**	**HH**
Pentachlorophenol [C]	0	2.6E+00	1.5E+00	2.8E+00	8.2E+01	5.1E+00	7.5E+01	1.4E+02	4.1E+03	6.4E-01	3.7E-01	2.8E-01	8.2E+00	1.3E+00	1.9E+01	1.4E+01	4.1E+02	**1.3E+00**	**1.9E+01**	**1.4E+01**	**4.1E+02**
Phenol	0	--	--	2.1E+04	4.6E+06	--	--	1.1E+06	2.3E+08	--	--	2.1E+03	4.6E+05	--	--	1.1E+05	2.3E+07	--	--	**1.1E+05**	**2.3E+07**
Pyrene	0	--	--	9.6E+02	1.1E+04	--	--	4.8E+04	5.5E+05	--	--	9.6E+01	1.1E+03	--	--	4.8E+03	5.5E+04	--	--	**4.8E+03**	**5.5E+04**
Radionuclides (pCi/l except Beta/Photon)	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Gross Alpha Activity	0	--	--	1.5E+01	1.5E+01	--	--	7.5E+02	7.5E+02	--	--	1.5E+00	1.5E+00	--	--	7.5E+01	7.5E+01	--	--	**7.5E+01**	**7.5E+01**
Beta and Photon Activity (mrem/yr)	0	--	--	4.0E+00	4.0E+00	--	--	2.0E+02	2.0E+02	--	--	4.0E-01	4.0E-01	--	--	2.0E+01	2.0E+01	--	--	**2.0E+01**	**2.0E+01**
Strontium-90	0	--	--	8.0E+00	8.0E+00	--	--	4.0E+02	4.0E+02	--	--	8.0E-01	8.0E-01	--	--	4.0E+01	4.0E+01	--	--	**4.0E+01**	**4.0E+01**
Tritium	0	--	--	2.0E+04	2.0E+04	--	--	1.0E+06	1.0E+06	--	--	2.0E+03	2.0E+03	--	--	1.0E+05	1.0E+05	--	--	**1.0E+05**	**1.0E+05**
Selenium	0	2.0E+01	5.0E+00	1.7E+02	1.1E+04	4.0E+01	2.5E+02	8.5E+03	5.5E+05	5.0E+00	1.3E+00	1.7E+01	1.1E+03	1.0E+01	6.3E+01	8.5E+02	5.5E+04	**1.0E+01**	**6.3E+01**	**8.5E+02**	**5.5E+04**
Silver	0	9.8E-01	--	--	--	2.0E+00	--	--	--	2.4E-01	--	--	--	4.9E-01	--	--	--	**4.9E-01**	--	--	--
Sulfate	0	--	--	2.5E+05	--	--	--	1.3E+07	--	--	--	2.5E+04	--	--	--	1.3E+06	--	--	--	**1.3E+06**	--
1,1,2,2-Tetrachloroethane[C]	0	--	--	1.7E+00	1.1E+02	--	--	8.5E+01	5.5E+03	--	--	1.7E-01	1.1E+01	--	--	8.5E+00	5.5E+02	--	--	**8.5E+00**	**5.5E+02**
Tetrachloroethylene[C]	0	--	--	8.0E+00	8.9E+01	--	--	4.0E+02	4.5E+03	--	--	8.0E-01	8.9E+00	--	--	4.0E+01	4.5E+02	--	--	**4.0E+01**	**4.5E+02**
Thallium	0	--	--	1.7E+00	6.3E+00	--	--	8.5E+01	3.2E+02	--	--	1.7E-01	6.3E-01	--	--	8.5E+00	3.2E+01	--	--	**8.5E+00**	**3.2E+01**
Toluene	0	--	--	6.8E+03	2.0E+05	--	--	3.4E+05	1.0E+07	--	--	6.8E+02	2.0E+04	--	--	3.4E+04	1.0E+06	--	--	**3.4E+04**	**1.0E+06**
Total dissolved solids	0	--	--	5.0E+05	--	--	--	2.5E+07	--	--	--	5.0E+04	--	--	--	2.5E+06	--	--	--	**2.5E+06**	--
Toxaphene [C]	0	7.3E-01	2.0E-04	7.3E-03	7.5E-03	1.5E+00	1.0E-02	3.7E-01	3.8E-01	1.8E-01	5.0E-05	7.3E-04	7.5E-04	3.7E-01	2.5E-03	3.7E-02	3.8E-02	**3.7E-01**	**2.5E-03**	**3.7E-02**	**3.8E-02**
Tributyltin	0	4.6E-01	6.3E-02	--	--	9.2E-01	3.2E+00	--	--	1.2E-01	1.6E-02	--	--	2.3E-01	7.9E-01	--	--	**2.3E-01**	**7.9E-01**	--	--
1,2,4-Trichlorobenzene	0	--	--	2.6E+02	9.4E+02	--	--	1.3E+04	4.7E+04	--	--	2.6E+01	9.4E+01	--	--	1.3E+03	4.7E+03	--	--	**1.3E+03**	**4.7E+03**
1,1,2-Trichloroethane[C]	0	--	--	6.0E+00	4.2E+02	--	--	3.0E+02	2.1E+04	--	--	6.0E-01	4.2E+01	--	--	3.0E+01	2.1E+03	--	--	**3.0E+01**	**2.1E+03**
Trichloroethylene [C]	0	--	--	2.7E+01	8.1E+02	--	--	1.4E+03	4.1E+04	--	--	2.7E+00	8.1E+01	--	--	1.4E+02	4.1E+03	--	--	**1.4E+02**	**4.1E+03**
2,4,6-Trichlorophenol [C]	0	--	--	2.1E+01	6.5E+01	--	--	1.1E+03	3.3E+03	--	--	2.1E+00	6.5E+00	--	--	1.1E+02	3.3E+02	--	--	**1.1E+02**	**3.3E+02**
2-(2,4,5-Trichlorophenoxy) propionic acid (Silvex)	0	--	--	5.0E+01	--	--	--	2.5E+03	--	--	--	5.0E+00	--	--	--	2.5E+02	--	--	--	**2.5E+02**	--
Vinyl Chloride[C]	0	--	--	2.3E-01	6.1E+01	--	--	1.2E+01	3.1E+03	--	--	2.3E-02	6.1E+00	--	--	1.2E+00	3.1E+02	--	--	**1.2E+00**	**3.1E+02**
Zinc	0	6.3E+01	7.0E+01	9.1E+03	6.9E+04	1.3E+02	3.5E+03	4.6E+05	3.5E+06	1.6E+01	1.7E+01	9.1E+02	6.9E+03	3.1E+01	8.7E+02	4.6E+04	3.5E+05	**3.1E+01**	**8.7E+02**	**4.6E+04**	**3.5E+05**

Notes:

1. All concentrations expressed as micrograms/liter (ug/l), unless noted otherwise
2. Discharge flow is highest monthly average or Form 2C maximum for Industries and design flow for Municipals
3. Metals measured as Dissolved, unless specified otherwise
4. "C" indicates a carcinogenic parameter
5. Regular WLAs are mass balances (minus background concentration) using the % of stream flow entered above under Mixing Information.
   Antidegradation WLAs are based upon a complete mix.
6. Antideg. Baseline = (0.25(WQC - background conc.) + background conc.) for acute and chronic
   = (0.1(WQC - background conc.) + background conc.) for human health
7. WLAs established at the following stream flows: 1Q10 for Acute, 30Q10 for Chronic Ammonia, 7Q10 for Other Chronic, 30Q5 for Non-carcinogens, Harmonic Mean for Carcinogens, and Annual Average for Dioxin. Mixing ratios may be substituted for stream flows where appropriate.

Metal	Target Value (SSTV)
Antimony	7.0E+01
Arsenic	5.0E+01
Barium	1.0E+04
Cadmium	3.4E-01
Chromium III	6.2E+01
Chromium VI	3.2E+00
Copper	1.3E+00
Iron	1.5E+03
Lead	9.3E+00
Manganese	2.5E+02
Mercury	2.5E-01
Nickel	2.0E+01
Selenium	4.0E+00
Silver	2.0E-01
Zinc	1.3E+01

Note: do not use QL's lower than the minimum QL's provided in agency guidance

3/27/2008 3:22:40 PM

Facility = Mt. Zion and Rustic WTP
Chemical = Dissolved Chromium III
Chronic averaging period = 4
WLAa = 160 ug/l
WLAc = 560 ug/l
Q.L. = 1 ug/l
# samples/mo. = 1
# samples/wk. = 1

Summary of Statistics:

observations = 1
Expected Value = 6
Variance = 12.96
C.V. = 0.6
97th percentile daily values = 14.6005
97th percentile 4 day average = 9.98274
97th percentile 30 day average= 7.23631
< Q.L. = 0
Model used = BPJ Assumptions, type 2 data

No Limit is required for this material

The data are:

6 ug/l

3/27/2008 3:38:36 PM

Facility = Mt. Zion and Rustic WTP
Chemical = Dissolved Chromium VI
Chronic averaging period = 4
WLAa = 8 ug/l
WLAc = 140 ug/l
Q.L. = 0.5 ug/l
# samples/mo. = 1
# samples/wk. = 1

Summary of Statistics:

observations = 1
Expected Value = 10
Variance = 36
C.V. = 0.6
97th percentile daily values = 24.3341
97th percentile 4 day average = 16.6379
97th percentile 30 day average= 12.0605
< Q.L. = 0
Model used = BPJ Assumptions, type 2 data

A limit is needed based on Acute Toxicity
Maximum Daily Limit = 8 ug/l
Average Weekly limit = 8 ug/l
Average Monthly LImit = 8 ug/l

The data are:

10 ug/l

3/27/2008 3:17:57 PM

Facility = Mt. Zion and Rustic WTP
Chemical = Dissolved Copper
Chronic averaging period = 4
WLAa = 3.4 ug/l
WLAc = 66 ug/l
Q.L. = 1 ug/l
# samples/mo. = 1
# samples/wk. = 1

Summary of Statistics:

observations = 1
Expected Value = 2
Variance = 1.44
C.V. = 0.6
97th percentile daily values = 4.86683
97th percentile 4 day average = 3.32758
97th percentile 30 day average= 2.41210
< Q.L. = 0
Model used = BPJ Assumptions, type 2 data

A limit is needed based on Acute Toxicity
Maximum Daily Limit = 3.4 ug/l
Average Weekly limit = 3.4 ug/l
Average Monthly Limit = 3.4 ug/l

The data are:

2 ug/l

No limit was assigned as a result of this analysis because the laboratory's method detection limit was less than the target value for copper, indicating that the less than sample result did not contain copper exceeding water quality standards.

1/23/2008 1:30:45 PM

Facility = Mt. Zion and Rustic WTP
Chemical = Ammonia
Chronic averaging period = 30
WLAa = 7.4 mg/l
WLAc = 0.56 mg/l
Q.L. = 0.2 mg/l
# samples/mo. = 1
# samples/wk. = 1

Summary of Statistics:

observations = 1
Expected Value = .5
Variance = .09
C.V. = 0.6
97th percentile daily values = 1.21670
97th percentile 4 day average = .831895
97th percentile 30 day average= .603026
< Q.L. = 0
Model used = BPJ Assumptions, type 2 data

A limit is needed based on Chronic Toxicity
Maximum Daily Limit = 1.12989525231313 mg/l
Average Weekly limit = 1.12989525231313 mg/l
Average Monthly Limit = 1.12989525231313 mg/l

The data are:

0.5 mg/l

3/27/2008 3:39:46 PM

Facility = Mt. Zion and Rustic WTP
Chemical = Dissolved Lead
Chronic averaging period = 4
WLAa = 23 ug/l
WLAc = 77 ug/l
Q.L. = 1 ug/l
# samples/mo. = 1
# samples/wk. = 1

Summary of Statistics:

observations = 1
Expected Value = 2
Variance = 1.44
C.V. = 0.6
97th percentile daily values = 4.86683
97th percentile 4 day average = 3.32758
97th percentile 30 day average= 2.41210
< Q.L. = 0
Model used = BPJ Assumptions, type 2 data

No Limit is required for this material

The data are:

2 ug/l

3/27/2008 3:20:18 PM

Facility = Mt. Zion and Rustic WTP
Chemical = Dissolved Zinc
Chronic averaging period = 4
WLAa = 31 ug/l
WLAc = 870 ug/l
Q.L. = 2 ug/l
# samples/mo. = 1
# samples/wk. = 1

Summary of Statistics:

observations = 1
Expected Value = 20
Variance = 144
C.V. = 0.6
97th percentile daily values = 48.6683
97th percentile 4 day average = 33.2758
97th percentile 30 day average= 24.1210
< Q.L. = 0
Model used = BPJ Assumptions, type 2 data

A limit is needed based on Acute Toxicity
Maximum Daily Limit = 31 ug/l
Average Weekly limit = 31 ug/l
Average Monthly Limit = 31 ug/l

The data are:

20 ug/l

A human health wasteload allocation of 350,000 ug/l is also applicable, but exceeds the acute and chronic wasteload allocations, so it is not controlling in this situation.

MEMORANDUM

DEPARTMENT OF ENVIRONMENTAL QUALITY
Piedmont Regional Office

4949-A Cox Road, Glen Allen, Virginia 23060 804/527-5020

TO: Curtis Linderman, PRO Water Permits Manager
FROM: Denise Mosca, PRO Environmental Specialist II
DATE: November 27, 2007
SUBJECT: Request for Application Waiver - Mt. Zion and Rustic WTP VA0085936
COPIES: File

Facility Description:
Mt. Zion and Rustic WTP discharges to a wetland located about 25 ft. from the tidally influenced Morris Creek in Charles City County, Va. This facility utilizes a reverse osmosis (R.O.) system to provide drinking water for the Mt. Zion and Rustic neighborhoods. Unchlorinated well water is used to backflush the system. The discharge flow is 9,000 gpd. The discharge is piped about a mile from the treatment plant to the stream.

Waiver Request:
The permit manual lists minimum testing requirements for water treatment plants. It states that the applicant may request and be granted a waiver for all but the flowing parameters: Part A: TSS, Flow, pH. and Part B: (specifically for R.O.facilities) must provide test results for radioactivity and other parameters believed present; Part C: In addition to those parameters believed present, in the absence of information showing conclusively that the following metals are absent, the applicant must test for cadmium, chromium, copper, lead, mercury and zinc. In addition, for R. O. facilities, TDS should be provided with the application information.

This waiver was granted for all but the minimum testing requirements during the previous permit reissuance. The applicant has requested by letter of October 18, 2007 that the waiver also be granted for this current reissuance. However, with his application submittal dated November 9, 2007, data were provided for Part V.A.1.a (BOD); A.1.b (COD); A.1.c (TOC); A.1.d (TSS); A.1.e (NH3); A.1.f (flow) A.1.i (pH). Missing from this submittal were the winter and summer temperatures in Part V.A.1.g and h. A winter temperature may be easily obtained now when additional samples are taken, so it is recommended that this waiver only address the summer temperature.

It is possible to draft the permit without this summer temperature using a conservative default value. This procedure may result in the permittee receiving a limit for at least one parameter. Because this permit has been expired since September 2, 2007 and it is unlikely that the permittee will be able to obtain this data in the near future, I recommend that this waiver be approved.

Approved: _____ _____ Date

COMMONWEALTH OF VIRGINIA

COUNTY of CHARLES CITY

BOARD OF SUPERVISORS

TIMOTHY W. COTMAN, SR., CHAIRMAN
GILBERT A. SMITH, VICE-CHAIRMAN
MICHAEL L. HOLMES, MEMBER

INTERIM COUNTY ADMINISTRATOR

JACQUELINE M. WALLACE

October 18, 2007

RECEIVED
OCT 23 2007
PRO

Denise M. Mosca
Environmental Specialist II
DEQ Piedmont
4949-A Cox Road
Glen Allen, VA 23060

RE: Waiver Request for Testing of Parameters for Re-Issuance of VA0085936, Mt. Zion & Rustic Water Treatment Plant

Dear Ms. Mosca,

Per our discussion and your e-mail of October 12, 2007 I request waiver of testing as described in the VPDES Permit Manual, dated June 2004, Water Treatment Plants 5.b. found on page IN-164 and IN-165.

I assumed that DEQ would grant waivers for Form 2C section 5 part A, Items a, b, c and e, as was granted in DEQ letter dated 24 April, 2002 as there has been no change in process or quality of groundwater processed through the R/O system. I apologize for not realizing that I must formally request waiver of those items again and do request that waiver at this time.

At the time of the last permit re-issuance there was no formal guidance for R/O plant discharges. That appears to have changed with the issuance of the June 2004 Permit Manual which included short guidance on requirements for R/O plants.

I appreciate your aid in allowing me a chance to read and digest that guidance.

On October 23, 2007 I plan to take samples of TSS, and per 5.b(3) since I have no recent data I will take tests for Cadium, Chromium, Copper, lead, Mercury and Zinc. Per the guidance I request that they be dissolved.

I will respond to the rest of the requests of your e-mail of October 12, 2007 before the requested date of October 29, 2007.

Please call me if you have any questions or further guidance.

Sincerely,

John F. Miniclier, Jr.
Director of Public Works

P.O. Box 128 Charles City, Virginia 23030
(804) 652-4706 Fax (804) 829-5849

PLEASE PRINT OR TYPE IN THE UNSHADED AREAS ONLY. You may report some or all of this information on separate sheets (*use the same format*) instead of completing these pages. SEE INSTRUCTIONS.

EPA I.D. NUMBER (*copy from Item 1 of Form 1*)

V. INTAKE AND EFFLUENT CHARACTERISTICS *(continued from page 3 of Form 2-C)*

OUTFALL NO.

PART A –You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

1. POLLUTANT	2. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. MAXIMUM DAILY VALUE (2) MASS	b. MAXIMUM 30 DAY VALUE (*if available*) (1) CONCENTRATION	b. MAXIMUM 30 DAY VALUE (*if available*) (2) MASS	c. LONG TERM AVRG. VALUE (*if available*) (1) CONCENTRATION	c. LONG TERM AVRG. VALUE (*if available*) (2) MASS	d. NO. OF ANALYSES	3. UNITS (*specify if blank*) a. CONCENTRATION	3. UNITS b. MASS	4. INTAKE (*optional*) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	4. INTAKE a. LONG TERM AVERAGE VALUE (2) MASS	4. INTAKE b. NO. OF ANALYSES
a. Biochemical Oxygen Demand (*BOD*)	<2.0	<0.2664					1	mg/l	lb			
b. Chemical Oxygen Demand (*COD*)	<2.0	<0.2644					1	mg/l	lb			
c. Total Organic Carbon (*TOC*)	1.8	0.2380					1	mg/l	lb			
d. Total Suspended Solids (*TSS*)	<1.0	<0.1322					1	mg/l	lb			
e. Ammonia (*as N*)	0.5	0.0661					1	mg/l	lb			
f. Flow	VALUE 15,840 GALLONS		VALUE		VALUE 9,000 GPD		DAILY	GALLONS		VALUE		
g. Temperature (*winter*)	VALUE N/A		VALUE		VALUE			°C		VALUE		
h. Temperature (*summer*)	VALUE N/A		VALUE		VALUE			°C		VALUE		
i. pH	MINIMUM 6.9	MAXIMUM 7.2	MINIMUM 6.9	MAXIMUM 7.2			4/MO	STANDARD UNITS				

PART B – Mark "X" in column 2-a for each pollutant you know or have reason to believe is present. Mark "X" in column 2-b for each pollutant you believe to be absent. If you mark column 2a for any pollutant which is limited either directly, or indirectly but expressly, in an effluent limitations guideline, you must provide the results of at least one analysis for that pollutant. For other pollutants for which you mark column 2a, you must provide quantitative data or an explanation of their presence in your discharge. Complete one table for each outfall. See the instructions for additional details and requirements.

1. POLLUTANT AND CAS NO. (*if available*)	2. MARK "X" a BELIEVED PRESENT	2. MARK "X" b BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. MAXIMUM DAILY VALUE (2) MASS	b. MAXIMUM 30 DAY VALUE (*if available*) (1) CONCENTRATION	b. MAXIMUM 30 DAY VALUE (*if available*) (2) MASS	c. LONG TERM AVRG. VALUE (*if available*) (1) CONCENTRATION	c. LONG TERM AVRG. VALUE (*if available*) (2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	4. UNITS b. MASS	5. INTAKE (*optional*) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	5. INTAKE a. LONG TERM AVERAGE VALUE (2) MASS	5. INTAKE b. NO. OF ANALYSES
a. Bromide (24959-67-9)		X												
b. Chlorine, Total Residual		X												
c. Color		X												
d. Fecal Coliform		X												
e. Fluoride (16984-48-8)	X		5.0 mg/l	0.6610					1	mg/l	lb			
f. Nitrate-Nitrite (*as N*)		X												

Mt. Zion and Rustic WTP
2C application data
Submitted 10/07.

ENVIROCOMPLIANCE LABORATORIES, INC.

10357 Old Keeton Road
Ashland, Virginia 23005
Phone 804 550 3971
Fax 804 550 3826

Analytical Summary

Charles City County
Attn:
10900 Courthouse Road
Charles City, VA 23030

Project No. : 4036580
Project Name : MT. Zion R/O
Date Received: October 23, 2007
Date Sampled : October 22, 2007
Time Sampled : 05:10-12:10
Date Issued : November 06, 2007

Lab # 1(A-B)/Sample ID : Final Concentrate

Parameter	Result	Units	DL	Date/Time Prepared	Date/Time Analyzed	Method	Analyst
TSS	< 1.0	mg/l	1.0	10-26/0930	10-29/0730	2540 D	ISW
Ammonia (as N)	0.5	mg/l	.1	10-26/1300	10-26/1330	4500-NH3F	MDM

BDL = Below Detection Limit
All methods are 40 CFR 136 March 12, 2007, Table IB approved.
Reference to Standard Methods is 18th ed.

Carrie E. Sisk
QA Coordinator

R7A75507-1

ENVIROCOMPLIANCE LABORATORIES, INC.

Analytical Summary

10357 Old Keelun Road
Ashland, Virginia 23005
Phone 804 550 3971
Fax 804 550 3826

Charles City County
Attn: Frank Crump
10900 Courthouse Road
Charles City, VA 23030

Project No. : 4036580
Project Name : MT. Zion R/O
Date Received: October 23, 2007
Date Sampled : October 23, 2007
Time Sampled : 08:30
Date Issued : October 30, 2007

Lab # 1(A)/Sample ID : Final Concentrate

Parameter	Result	Units	DL	Date/Time Prepared	Date/Time Analyzed	Method	Analyst
BOD	< 2	mg/l	2	10-23/1220	10-28/1415	5210 B	R.R

BDL = Below Detection Limit
All methods are 40 CFR 136 March 12, 2007, Table IB approved.
Reference to Standard Methods is 18th ed.

Carrie E. Sisk
QA Coordinator

R7A75506-1

ENVIROCOMPLIANCE LABORATORIES, INC.
10367 Old Keeton Road
Ashland, Virginia 23005
Phone 804 550 3971
Fax 804 550 3826

Analytical Summary

Charles City County
Attn:
10900 Courthouse Road
Charles City, VA 23030

Project No. : 4036500
Project Name : MT. Zion R/O
Date Received: October 24, 2007
Date Sampled : October 24, 2007
Time Sampled : 12:15
Date Issued : October 31, 2007

Lab # 1(A-D)/Sample ID : Outfall 001

Parameter	Result	Units	DL	Date/Time Prepared	Date/Time Analyzed	Method	Analyst
TOC	1.8	mg/l	1.0	10-31/1330	10-31/1500	5310	PEJ
Fluoride	5	mg/l	1	10-30/1444	10-30/1444	300.0	SET
COD	BDL	mg/l	20	10-25/0945	10-26/0830	5220D	R.R
Zinc	BDL	mg/l	.02	10-30/1000	10-31/1321	3111B	GBH
Cadmium	BDL	mg/l	.0002	10-30/1000	10-31/1038	3111B	GBH
Chromium	0.003	mg/l	.002	10-30/1000	10-30/1808	3111B	GBH
Copper	0.006	mg/l	.002	10-30/1000	10-30/1459	3111B	GBH
Mercury	BDL	mg/l	.002	10-31/1230	10-31/1510	3112B	PEJ
Lead	BDL	mg/l	.5	10-31/1230	10-31/1430	3111B	PEJ

BDL = Below Detection Limit
All methods are 40 CFR 136 March 12, 2007, Table IB approved.
Reference to Standard Methods is 18th ed.

Carrie E. Sisk
QA Coordinator

R7A75545-1

ENVIROCOMPLIANCE LABORATORIES, INC.

Analytical Summary

10357 Old Keeton Road
Ashland, Virginia 23005
Phone 804 550 3971
Fax 804 550 3826

Charles City County
Attn: Public Works
10900 Courthouse Road
Charles City, VA 23030

Project No. : VA0085936
Project Name : MT. Zion R/O
Date Received: December 06, 2007
Date Sampled : December 06, 2007
Time Sampled : 09:30
Date Issued : January 08, 2008

Lab # 1(A-C)/Sample ID : Outfall 001

Parameter	Result	Units	DL	Date/Time Prepared	Date/Time Analyzed	Method	Analyst
TDS	1835	mg/l	1	12-07/1430	12-10/0830	2540 C	ISW
Dissolved Copper	BDL	mg/l	.002	12-07/1000	12-07/1210	3111B	GBH
Dissolved Mercury	0.40	ug/l	.20	12-14/1230	12-14/1510	3112B	PEJ
Dissolved Chromium	0.006	mg/l	.002	12-07/1000	12-07/1850	3111B	GBH
Dissolved Lead	BDL	mg/l	.002	12-07/1000	12-07/1555	3111B	GBH
Dissolved Zinc	BDL	mg/l	.02	12-07/1000	12-12/1435	3111B	GBH
Diss. Chromium III	0.006	mg/l	.005	01-08/1515	01-08/1515		calc.
Diss. Hexavalent Chrome	BDL	mg/l	.01	12-06/1310	12-06/1350	3500CrD	MDM
Hardness	42	mg/l	1	12-06/1551	12-06/1554		R.R

BDL = Below Detection Limit
All methods are 40 CFR 136 March 12, 2007, Table IB approved.
Reference to Standard Methods is 18th ed.

Carrie E. Sisk
QA Coordinator

R7C76282-1

ENVIROCOMPLIANCE LABORATORIES, INC.

10357 Old Keeton Road
Ashland, Virginia 23005
Phone 804 550 3971
Fax 804 550 3826

Analytical Summary

Charles City County
Attn: Public Works
10900 Courthouse Road
Charles City, VA 23030

Project No. : VA0085936
Project Name : MT. Zion R/O
Date Received: December 12, 2007
Date Sampled : December 12, 2007
Time Sampled : 10:00
Date Issued : January 23, 2008

Lab # 1(A-B)/Sample ID : Concentrate

Parameter	Result	Units	DL	Date/Time Prepared	Date/Time Analyzed	Method	Analyst
Sulfates	318	mg/l	1	12-12/1615	12-13/1615	300.0	GBH
Iron	0.39	mg/l	.20	12-13/0900	12-19/1328	3111B	GBH
Aluminum	14.0	ug/l	5.0	12-13/0900	12-20/1314	3111B	GBH
Barium	BDL	ug/l	50.0	12-13/0900	12-13/1429	3111B	GBH
Magnesium	406	ug/l	25	12-13/0930	01-15/1649	3111B	GBH
Temperature	68.0	°C	.1	12-12/1000	12-12/1000		ISW

BDL = Below Detection Limit
All methods are 40 CFR 136 March 12, 2007, Table IB approved.
Reference to Standard Methods is 18th ed.

Greg L. Hudson
Laboratory Director

R7C76380-1

ENVIROCOMPLIANCE LABORATORIES, INC.

10357 Old Keeton Road
Ashland, Virginia 23005
Phone 804 550 3971
Fax 804 550 3826

Analytical Summary

Charles City County
Attn: Public Works
10900 Courthouse Road
Charles City, VA 23030

Project No. : 4036500
Project Name : MT. Zion R/O
Date Received: October 24, 2007
Date Sampled : October 24, 2007
Time Sampled : 12:15
Date Issued : November 30, 2007

Lab # 1(A-D)/Sample ID : Outfall 001

Parameter	Result	Units	DL	Date/Time Prepared	Date/Time Analyzed	Method	Analyst
Gross Alpha	< 4.3	pCi/l	4.3	10-30/1200	10-31/1200	900.0	FRS
Radium-226	0.3	pCi/l	0.2	11-08/1200	11-16/1200	903.1	FRS
Total Radium	0.4	pCi/l	0.1	11-08/1200	11-18/1200	904.0	FRS
Gross Beta	25.5	pCi/l	4.2	10-30/1200	10-31/1200	900.0	FRS

BDL = Below Detection Limit
All methods are 40 CFR 136 March 12, 2007, Table IB approved.
Reference to Standard Methods is 18th ed.

Annie E. Sisk for
Greg L. Hudson
Laboratory Director

R7A75545-1

ATTACHMENT F

NPDES PERMIT RATING WORK SHEET

x☐ Regular Addition
☐ DiscretionaryAddition
☐ Score change, but no status change
☐ Deletion

NPDES NO. VA0085936

Facility Name: Mt. Zion and Rustic WTP

City: Charles City, Va.

Receiving Water: Morris Creek

Reach Number:

Is this facility a steam electric power plant (SIC=4911) with one or more of the following characteristics?
1. Power output 500 MW or greater (not using a cooling pond/lake)
2. A nuclear power plant
3. Cooling water discharge greater than 25% of the receiving stream's 7Q10 flow rate

☐ YES; score is 600 (stop here) x☐ NO (continue)

Is this permit for a municipal separate storm sewer serving a population greater than 100,000?

☐ YES; score is 700 (stop here)
☐x NO (continue)

FACTOR 1: Toxic Pollutant Potential

PCS SIC Code: _____ Primary SIC Code: 4941 Other SIC Codes:
Industrial Subcategory Code: 000 (Code 000 if no subcategory)

Determine the Toxicity potential from Appendix A. Be sure to use the TOTAL toxicity potential column and check one)

Toxicity Group	Code	Points	Toxicity Group	Code	Points	Toxicity Group	Code	Points
☐ No process waste streams	0	0	☐ 3.	3	15	☐ 7.	7	35
☐ 1.	1	5	☐ 4.	4	20	☐ 8.	8	40
☐ 2.	2	10	☐ 5.	5	25	☐ 9.	9	45
			☐ 6.	6	30	☐ 10.	10	50

Code Number Checked: 7

Total Points Factor 1: 35

FACTOR 2: Flow/Stream Flow Volume (*Complete either Section A or Section B; check only one)*

Section A ☐ Wastewater Flow Only Considered

Wastewater Type (See Instructions)		Code	Points
Type I: Flow < 5 MGD	☐	11	0
Flow 5 to 10 MGD	☐	12	10
Flow > 10 to 50 MGD	☐	13	20
Flow > 50 MGD	☐	14	30
Type II: Flow < 1 MGD	x☐	21	10
Flow 1 to 5 MGD	☐	22	20
Flow > 5 to 10 MGD	☐	23	30
Flow > 10 MGD	☐	24	50
Type III: Flow < 1 MGD	☐	31	0
Flow 1 to 5 MGD	☐	32	10
Flow > 5 to 10 MGD	☐	33	20
Flow > 10 MGD	☐	34	30

Section B ☐ Wastewater and Stream Flow Considered

Wastewater Type (See Instructions)	Percent of instream Wastewater Concentration at Receiving Stream Low Flow		Code	Points
Type I/III:	< 10 %	☐	41	0
	10 % to < 50 %	☐	42	10
	> 50 %	☐	43	20
Type II:	< 10 %	☐	51	0
	10 % to <50 %	☐	52	20
	> 50 %	☐	53	30

Code Checked from Section A or B: 21
Total Points Factor 2: 10

SECTION IN – INDUSTRIAL

FACTOR 3: Conventional Pollutants NPDES NO:
(only when limited by the permit)

A. Oxygen Demanding Pollutant: (check one) ☐ BOD x☐ COD ☐ Other:_____

			Code	*Points*
Permit Limits: (check one)	x	< 100 lbs/day	1	0
	☐	100 to 1000 lbs/day	2	5
	☐	> 1000 to 3000 lbs/day	3	15
	☐	> 3000 lbs/day	4	20

Code Checked: __1___

Points Scored:__0___

B. Total Suspended Solids (TSS)

			Code	*Points*
Permit Limits: (check one)	x☐	< 100 lbs/day	1	0
	☐	100 to 1000 lbs/day	2	5
	☐	> 1000 to 5000 lbs/day	3	15
	☐	> 5000 lbs/day	4	20

Code Checked: __1___

Points Scored: ___0__

C. Nitrogen Pollutant: (check one) x☐ Ammonia ☐ Other: _____

		Nitrogen Equivalent	*Code*	*Points*
Permit Limits: (check one)	x☐	< 300 lbs/day	1	0
	☐	300 to 1000 lbs/day	2	5
	☐	> 1000 to 3000 lbs/day	3	15
	☐	> 3000 lbs/day	4	20

Code Checked: ___1__

Points Scored:___0__

Total Points Factor 3: ___0__

FACTOR 4: Public Health Impact

Is there a public drinking water supply located within 50 miles downstream of the effluent discharge (this includes any body of water to which the receiving water is a tributary)? A public drinking water supply may include infiltration galleries, or other methods of conveyance that ultimately get water from the above referenced supply.

☐ YES (If yes, check toxicity potential number below)

☐ NO (If no, go to Factor 5)

Determine the *human health* toxicity potential from Appendix A. Use the same SIC code and subcategory reference as in Factor 1. (Be sure to use the human health toxicity group column ☐ check one below)

Toxicity Group	Code	Points	Toxicity Group	Code	Points	Toxicity Group	Code	Points
☐ No process waste streams	0	0	☐ 3.	3	0	x☐ 7.	7	15
☐ 1.	1	0	☐ 4.	4	0	☐ 8.	8	20
☐ 2.	2	0	☐ 5.	5	5	☐ 9.	9	25
			☐ 6.	6	10	☐ 10.	10	30

Code Number Checked: _7___

Total Points Factor 4:___15__

SECTION IN – INDUSTRIAL

FACTOR 5: Water Quality Factors NPDES NO.

A. *Is (or will) one or more of the effluent discharge limits based on water quality factors of the receiving stream (rather than technology-based federal effluent guidelines, or technology-based state effluent guidelines), or has a wasteload allocation been assigned to the discharge:*

		Code	Points
☐	Yes	1	10
X	No	2	0

B. *Is the receiving water in compliance with applicable water quality standards for pollutants that are water quality limited in the permit?*

		Code	Points
X☐	Yes	1	0
☐	No	2	5

C. *Does the effluent discharged from this facility exhibit the reasonable potential to violate water quality standards due to whole effluent toxicity?*

		Code	Points
☐	Yes	1	10
X☐	No	2	0

Code Number Checked: A _2_ B _1_ C _2_

Points Factor 5: A _0_ + B _0_ + C _0_ = _0_ TOTAL

FACTOR 6: Proximity to Near Coastal Waters

A. *Base Score: Enter flow code here (from Factor 2):* __21__

Enter the multiplication factor that corresponds to the flow code: _0.1____

Check appropriate facility HPRI Code (from PCS):

	HPRI#	*Code*	*HPRI Score*
☐	1	1	20
☐	2	2	0
☐X	3	3	30
☐	4	4	0
☐	5	5	20

Flow Code	*Multiplication Factor*
11, 31, or 41	0.00
12, 32, or 42	0.05
13, 33, or 43	0.10
14 or 34	0.15
21 or 51	0.10
22 or 52	0.30
23 or 53	0.60
24	1.00

HPRI code checked: 3__

3 ____ (TOTAL POINTS)

B. *Additional Points ☐ NEP Program*
For a facility that has an HPRI code of 3, does the facility discharge to one of the estuaries enrolled in the National Estuary Protection (NEP) program (see instructions) or the Chesapeake Bay?

	Code	Points
X Yes	1	10
☐ No	2	0

C. *Additional Points ☐ Great Lakes Area of Concern*
For a facility that has an HPRI code of 5, does the facility discharge any of the pollutants of concern into one of the Great Lakes' 31 areas of concern (see Instructions)

	Code	Points
☐ Yes	1	10
☐X No	2	0

Code Number Checked: A _3_ B _1_ C _2

Points Factor 6: A 3__ + B _10_ + C _0_ = _13_ TOTAL

SECTION IN – INDUSTRIAL

SCORE SUMMARY

NPDES NO.

Factor	Description	Total Points
1	Toxic Pollutant Potential	35
2	Flows/Streamflow Volume	10
3	Conventional Pollutants	0
4	Public Health Impacts	15
5	Water Quality Factors	0
6	Proximity to Near Coastal Waters	13
	TOTAL (Factors 1 through 6)	73

S1. Is the total score equal to or greater than 80? ☐ Yes (Facility is a major) x☐ No

S2. If the answer to the above questions is no, would you like this facility to be discretionary major?

x☐ No

☐ Yes (Add 500 points to the above score and provide reason below:

Reason:

NEW SCORE: 73

OLD SCORE: 73

Denise Mosca
Permit Reviewer's Name

(804) 527-5027
Phone Number

2/13/08
Date

ATTACHMENT G

Revised 2/2003

State "Transmittal Checklist" to Assist in Targeting Municipal and Industrial Individual NPDES Draft Permits for Review

Part I. State Draft Permit Submission Checklist

In accordance with the MOA established between the Commonwealth of Virginia and the United States Environmental Protection Agency, Region III, the Commonwealth submits the following draft National Pollutant Discharge Elimination System (NPDES) permit for Agency review and concurrence.

Facility Name: Mt. Zion and Rustic WTP

NPDES Permit Number: VA0085936

Permit Writer Name: Denise Mosca

Date: February 13, 2008

Major [ ] **Minor** [x] **Industrial** [x] **Municipal** [ ]

I.A. Draft Permit Package Submittal Includes:	Yes	No	N/A
1. Permit Application?	x		
2. Complete Draft Permit (for renewal or first time permit – entire permit, including boilerplate information)?	x		
3. Copy of Public Notice?		X	
4. Complete Fact Sheet?	x		
5. A Priority Pollutant Screening to determine parameters of concern?	x		
6. A Reasonable Potential analysis showing calculated WQBELs?	x		
7. Dissolved Oxygen calculations?			x
8. Whole Effluent Toxicity Test summary and analysis?			x
9. Permit Rating Sheet for new or modified industrial facilities?	x		

I.B. Permit/Facility Characteristics	Yes	No	N/A
1. Is this a new, or currently unpermitted facility?		x	
2. Are all permissible outfalls (including combined sewer overflow points, non-process water and storm water) from the facility properly identified and authorized in the permit?	x		
3. Does the fact sheet **or** permit contain a description of the wastewater treatment process? There is no treatment provided.			x

I.B. Permit/Facility Characteristics – cont.	Yes	No	N/A
4. Does the review of PCS/DMR data for at least the last 3 years indicate significant non-compliance with the existing permit?		x	
5. Has there been any change in streamflow characteristics since the last permit was developed?		x	
6. Does the permit allow the discharge of new or increased loadings of any pollutants?	x		
7. Does the fact sheet **or** permit provide a description of the receiving water body(s) to which the facility discharges, including information on low/critical flow conditions and designated/existing uses?	x		
8. Does the facility discharge to a 303(d) listed water?	x		
a. Has a TMDL been developed and approved by EPA for the impaired water?		x	
b. Does the record indicate that the TMDL development is on the State priority list and will most likely be developed within the life of the permit?		x	
c. Does the facility discharge a pollutant of concern identified in the TMDL or 303(d) listed water?		x	
9. Have any limits been removed, or are any limits less stringent, than those in the current permit?		x	
10. Does the permit authorize discharges of storm water?		x	
11. Has the facility substantially enlarged or altered its operation or substantially increased its flow or production?		x	
12. Are there any production-based, technology-based effluent limits in the permit?		x	
13. Do any water quality-based effluent limit calculations differ from the State's standard policies or procedures?		x	
14. Are any WQBELs based on an interpretation of narrative criteria?		x	
15. Does the permit incorporate any variances or other exceptions to the State's standards or regulations?		x	
16. Does the permit contain a compliance schedule for any limit or condition?	x		
17. Is there a potential impact to endangered/threatened species or their habitat by the facility's discharge(s)?		x	
18. Have impacts from the discharge(s) at downstream potable water supplies been evaluated?	x		
19. Is there any indication that there is significant public interest in the permit action proposed for this facility?		x	
20. Have previous permit, application, and fact sheet been examined?	x		

Part II. NPDES Draft Permit Checklist

Region III NPDES Permit Quality Review Checklist – For Non-Municipals

(To be completed and included in the record for all non-POTWs)

II.A. Permit Cover Page/Administration	Yes	No	N/A
1. Does the fact sheet **or** permit describe the physical location of the facility, including latitude and longitude (not necessarily on permit cover page)?	x		
2. Does the permit contain specific authorization-to-discharge information (from where to where, by whom)?	x		

II.B. Effluent Limits – General Elements	Yes	No	N/A
1. Does the fact sheet describe the basis of final limits in the permit (e.g., that a comparison of technology and water quality-based limits was performed, and the most stringent limit selected)?	x		
2. Does the fact sheet discuss whether "antibacksliding" provisions were met for any limits that are less stringent than those in the previous NPDES permit?	x		

II.C. Technology-Based Effluent Limits (Effluent Guidelines & BPJ)	Yes	No	N/A
1. Is the facility subject to a national effluent limitations guideline (ELG)?		x	
a. If yes, does the record adequately document the categorization process, including an evaluation of whether the facility is a new source or an existing source?			x
b. If no, does the record indicate that a technology-based analysis based on Best Professional Judgement (BPJ) was used for all pollutants of concern discharged at treatable concentrations?		x	
2. For all limits developed based on BPJ, does the record indicate that the limits are consistent with the criteria established at 40 CFR 125.3(d)?			X
3. Does the fact sheet adequately document the calculations used to develop both ELG and /or BPJ technology-based effluent limits?			X
4. For all limits that are based on production or flow, does the record indicate that the calculations are based on a "reasonable measure of ACTUAL production" for the facility (not design)?			X
5. Does the permit contain "tiered" limits that reflect projected increases in production or flow?		x	
a. If yes, does the permit require the facility to notify the permitting authority when alternate levels of production or flow are attained?			X
6. Are technology-based permit limits expressed in appropriate units of measure (e.g., concentration, mass, SU)?			x

II.C. Technology-Based Effluent Limits (Effluent Guidelines & BPJ) – cont.	Yes	No	N/A
7. Are all technology-based limits expressed in terms of both maximum daily, weekly average, and/or monthly average limits?	x		
8. Are any final limits less stringent than required by applicable effluent limitations guidelines or BPJ?		x	

II.D. Water Quality-Based Effluent Limits	Yes	No	N/A
1. Does the permit include appropriate limitations consistent with 40 CFR 122.44(d) covering State narrative and numeric criteria for water quality?	x		
2. Does the record indicate that any WQBELs were derived from a completed and EPA approved TMDL?		x	
3. Does the fact sheet provide effluent characteristics for each outfall?	x		
4. Does the fact sheet document that a "reasonable potential" evaluation was performed?	x		
a. If yes, does the fact sheet indicate that the "reasonable potential" evaluation was performed in accordance with the State's approved procedures?	x		
b. Does the fact sheet describe the basis for allowing or disallowing in-stream dilution or a mixing zone?	x		
c. Does the fact sheet present WLA calculation procedures for all pollutants that were found to have "reasonable potential"?	x		
d. Does the fact sheet indicate that the "reasonable potential" and WLA calculations accounted for contributions from upstream sources (i.e., do calculations include ambient/background concentrations where data are available)?		x	
e. Does the permit contain numeric effluent limits for all pollutants for which "reasonable potential" was determined?	x		
5. Are all final WQBELs in the permit consistent with the justification and/or documentation provided in the fact sheet?	x		
6. For all final WQBELs, are BOTH long-term (e.g., average monthly) AND short-term (e.g., maximum daily, weekly average, instantaneous) effluent limits established?	x		
7. Are WQBELs expressed in the permit using appropriate units of measure (e.g., mass, concentration)?	x		
8. Does the fact sheet indicate that an "antidegradation" review was performed in accordance with the State's approved antidegradation policy?	x		

II.E. Monitoring and Reporting Requirements	Yes	No	N/A
1. Does the permit require at least annual monitoring for all limited parameters?	x		
a. If no, does the fact sheet indicate that the facility applied for and was granted a monitoring waiver, AND, does the permit specifically incorporate this waiver?			x
2. Does the permit identify the physical location where monitoring is to be performed for each outfall?	x		
3. Does the permit require testing for Whole Effluent Toxicity in accordance with the State's standard practices?		x	

II.F. Special Conditions	Yes	No	N/A
1. Does the permit require development and implementation of a Best Management Practices (BMP) plan or site-specific BMPs?		x	
a. If yes, does the permit adequately incorporate and require compliance with the BMPs?			X
2. If the permit contains compliance schedule(s), are they consistent with statutory and regulatory deadlines and requirements?			x
3. Are other special conditions (e.g., ambient sampling, mixing studies, TIE/TRE, BMPs, special studies) consistent with CWA and NPDES regulations?	x		

II.G. Standard Conditions	Yes	No	N/A
1. Does the **permit** contain all 40 CFR 122.41 standard conditions or the State equivalent (or more stringent) conditions?	x		

List of Standard Conditions – 40 CFR 122.41

Duty to comply
Duty to reapply
Need to halt or reduce activity not a defense
Duty to mitigate
Proper O & M
Permit actions

Property rights
Duty to provide information
Inspections and entry
Monitoring and records
Signatory requirement
Bypass
Upset

Reporting Requirements
Planned change
Anticipated noncompliance
Transfers
Monitoring reports
Compliance schedules
24-Hour reporting
Other non-compliance

2. Does the permit contain the additional standard condition (or the State equivalent or more stringent conditions) for existing non-municipal dischargers regarding pollutant notification levels [40 CFR 122.42(a)]?	x		

Part III. Signature Page

Based on a review of the data and other information submitted by the permit applicant, and the draft permit and other administrative records generated by the Department/Division and/or made available to the Department/Division, the information provided on this checklist is accurate and complete, to the best of my knowledge.

Name	Denise M. Mosca
Title	Environmental Specialist II
Signature	Denise M Mosca
Date	2/14/08

COMMONWEALTH OF VIRGINIA

COUNTY *of* CHARLES CITY

BOARD OF SUPERVISORS

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SHERRI BOWMAN, VICE-CHAIRMAN
TIMOTHY W. COTMAN, SR., MEMBER

COUNTY ADMINISTRATOR

JOHN F. MINICLIER, JR., PE

January 29, 2008

RECEIVED
JAN 31 2008
PRO

Ms. Denise M. Mosca
Environmental Specialist II
Department of Environmental Quality
4949-A Cox Road
Glen Allen, VA 23060

RE: Additional Information and Amended EPA Form 3510-2C for Re-issuance of VPDES Permit No. VA0085936, Mt. Zion/Rustic Water Treatment Plant

Dear Ms. Mosca:

Per your requests, testing was performed to complete EPA Form 2C. I have attached the lab sheets and annotated the EPA Form 2c for all dissolved testing as the form does not have a place to annotate dissolved testing results.

Please contact me if you need any additional information.

Sincerely,

John F. Miniclier, Jr., PE
County Administrator

JFMjr/yb

Attachment

P.O. Box 128 Charles City, Virginia 23030
(804) 652-4701 Fax (804) 829-5819

Ammended January 29, 2008

EPA I.D. NUMBER (*copy from Item 1 of Form 1*)

Form Approved
OMB No. 2040-0086
Approval expires 3-31-98

Please print or type in the unshaded areas only

FORM 2C NPDES

EPA

U.S. ENVIRONMENTAL PROTECTION AGENCY
APPLICATION FOR PERMIT TO DISCHARGE WASTEWATER

EXISTING MANUFACTURING, COMMERCIAL, MINING AND SILVICULTURE OPERATIONS

Consolidated Permits Program

I. OUTFALL LOCATION

For each outfall, list the latitude and longitude of its location to the nearest 15 seconds and the name of the receiving water.

A. OUTFALL NUMBER (*list*)	B. LATITUDE			C. LONGITUDE			D. RECEIVING WATER (*name*)
	1. DEG	2. MIN	3. SEC	1. DEG	2. MIN	3. SEC	
1	N37	18	00	W76	55	30	MORRIS CREEK

II. FLOWS, SOURCES OF POLLUTION, AND TREATMENT TECHNOLOGIES

A. Attach a line drawing showing the water flow through the facility. Indicate sources of intake water, operations contributing wastewater to the effluent, and treatment units labeled to correspond to the more detailed descriptions in Item B. Construct a water balance on the line drawing by showing average flows between intakes, operations, treatment units, and outfalls. If a water balance cannot be determined (*e.g., for certain mining activities*), provide a pictorial description of the nature and amount of any sources of water and any collection or treatment measures.

B. For each outfall, provide a description of: (1) All operations contributing wastewater to the effluent, including process wastewater, sanitary wastewater, cooling water, and storm water runoff; (2) The average flow contributed by each operation; and (3) The treatment received by the wastewater. Continue on additional sheets if necessary.

1. OUTFALL NO. (*list*)	2. OPERATION(S) CONTRIBUTING FLOW		3. TREATMENT		
	a. OPERATION (*list*)	b. AVERAGE FLOW (*include units*)	a. DESCRIPTION	b. LIST CODES FROM TABLE 2C-1	
1	REVERSE OSMOSIS	9,000 GPD	REVERSE OSMOSIS	1	S

OFFICIAL USE ONLY (*effluent guidelines sub-categories*)

Ammended January 29, 2008

CONTINUED FROM THE FRONT

C. Except for storm runoff, leaks, or spills, are any of the discharges described in Items II-A or B intermittent or seasonal?

☑ YES (*complete the following table*) ☐ NO (*go to Section III*)

1. OUTFALL NUMBER (*list*)	2. OPERATION(s) CONTRIBUTING FLOW (*list*)	3. FREQUENCY		4. FLOW				
		a. DAYS PER WEEK (*specify average*)	b. MONTHS PER YEAR (*specify average*)	a. FLOW RATE (*in mgd*)		B. TOTAL VOLUME (*specify with units*)		C. DURATION (*in days*)
				1. LONG TERM AVERAGE	2. MAXIMUM DAILY	1. LONG TERM AVERAGE	2. MAXIMUM DAILY	
1	REVERSE OSMOSIS	6	12	0.009	0.0158	1,203 CU.FT.	2,122 CU.FT	1

III. PRODUCTION

A. Does an effluent guideline limitation promulgated by EPA under Section 304 of the Clean Water Act apply to your facility?

☑ YES (*complete Item III-B*) ☐ NO (*go to Section IV*)

B. Are the limitations in the applicable effluent guideline expressed in terms of production (*or other measure of operation*)?

☐ YES (*complete Item III-C*) ☑ NO (*go to Section IV*)

C. If you answered "yes" to Item III-B, list the quantity which represents an actual measurement of your level of production, expressed in the terms and units used in the applicable effluent guideline, and indicate the affected outfalls.

1. AVERAGE DAILY PRODUCTION			2. AFFECTED OUTFALLS (*list outfall numbers*)
a. QUANTITY PER DAY	b. UNITS OF MEASURE	c. OPERATION, PRODUCT, MATERIAL, ETC. (*specify*)	

IV. IMPROVEMENTS

A. Are you now required by any Federal, State or local authority to meet any implementation schedule for the construction, upgrading or operations of wastewater treatment equipment or practices or any other environmental programs which may affect the discharges described in this application? This includes, but is not limited to, permit conditions, administrative or enforcement orders, enforcement compliance schedule letters, stipulations, court orders, and grant or loan conditions.

☐ YES (*complete the following table*) ☑ NO (*go to Item IV-B*)

1. IDENTIFICATION OF CONDITION, AGREEMENT, ETC.	2. AFFECTED OUTFALLS		3. BRIEF DESCRIPTION OF PROJECT	4. FINAL COMPLIANCE DATE	
	a. NO.	b. SOURCE OF DISCHARGE		a. REQUIRED	b. PROJECTED

B. OPTIONAL. You may attach additional sheets describing any additional water pollution control programs (or other environmental projects which may affect your discharges) you now have underway or which you plan. Indicate whether each program is now underway or planned, and indicate your actual or planned schedules for construction.

☐ MARK 'X' IF DESCRIPTION OF ADDITIONAL CONTROL PROGRAMS IS ATTACHED

Ammended January 29, 2008

EPA I.D. NUMBER (*copy from Item 1 of Form 1*)

CONTINUED FROM PAGE 2

V. INTAKE AND EFFLUENT CHARACTERISTICS

A, B, & C. See instructions before proceeding – Complete one set of tables for each outfall – Annotate the outfall number in the space provided
NOTE: Tables V-A, V-B, and V-C are included on separate sheets numbered V-1 through V-9

D. Use the space below to list any of the pollutants listed in Table 2c-3 of the instructions, which you know or have reason to believe is discharged or may be discharged from any outfall. For every pollutant you list, briefly describe the reasons you believe it to be present and report any analytical data in your possession.

1. POLLUTANT	2. SOURCE	1. POLLUTANT	2. SOURCE
NONE			

VI. POTENTIAL DISCHARGES NOT COVERED BY ANALYSIS

Is any pollutant listed in Item V-C a substance or a component of a substance which you currently use or manufacture as an intermediate or final product or byproduct?

☐ YES (*list all such pollutants below*) ☑ NO (*go to Item VI-B*)

Ammended January 29, 2008

CONTINUED FROM THE FRONT

VII. BIOLOGICAL TOXICITY TESTING DATA

Do you have any knowledge or reason to believe that any biological test for acute or chronic toxicity has been made on any of your discharges or on a receiving water in relation to your discharge within the last 3 years?

☐ YES (*identify the test(s) and describe their purposes below*) ☑ NO (*go to Section VIII*)

VIII. CONTRACT ANALYSIS INFORMATION

Were any of the analyses reported in Item V performed by a contract laboratory or consulting firm?

☑ YES (*list the name, address, and telephone number of, and pollutants analyzed by, each such laboratory or firm below*) ☐ NO (*go to Section IX*)

A. NAME	B. ADDRESS	C. TELEPHONE (*area code & no.*)	D. POLLUTANTS ANALYZED (*list*)
Envirocompliance	10367 Old Keeton Road, Ashland, VA 23005	804-550-3371	MBT, Fluride, COD, Zinc, Cadium, Chromium, Copper, Mercury, Lead, BOD,TSS, Sulfates, Iron, Aluminum, Barium, Magnesium Alpha total, Beta total,Radium total And Radium 226.

IX. CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

A. NAME & OFFICIAL TITLE (*type or print*)	B. PHONE NO. (*area code & no.*)
John F. Mitchell Jr. COUNTY ADMINISTRATOR	(804) 652-4701
C. SIGNATURE	D. DATE SIGNED
	1/29/08

PLEASE PRINT OR TYPE IN THE UNSHADED AREAS ONLY. You may report some or all of this information on separate sheets (*use the same format*) instead of completing these pages. SEE INSTRUCTIONS.

EPA I.D. NUMBER (*copy from Item 1 of Form 1*)

V. INTAKE AND EFFLUENT CHARACTERISTICS *(continued from page 3 of Form 2-C)*

OUTFALL NO.

PART A –You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

1. POLLUTANT	2. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. MAXIMUM DAILY VALUE (2) MASS	b. MAXIMUM 30 DAY VALUE (*if available*) (1) CONCENTRATION	b. MAXIMUM 30 DAY VALUE (*if available*) (2) MASS	c. LONG TERM AVRG. VALUE (*if available*) (1) CONCENTRATION	c. LONG TERM AVRG. VALUE (*if available*) (2) MASS	d. NO. OF ANALYSES	3. UNITS (*specify if blank*) a. CONCENTRATION	3. UNITS b. MASS	4. INTAKE (*optional*) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	4. INTAKE a. LONG TERM AVERAGE VALUE (2) MASS	4. INTAKE b. NO. OF ANALYSES
a. Biochemical Oxygen Demand (*BOD*)	<2.0	<0.2664					1	mg/l	lb			
b. Chemical Oxygen Demand (*COD*)	<2.0	<0.2644					1	mg/l	lb			
c. Total Organic Carbon (*TOC*)	1.8	<0.1322					1	mg/l	lb			
d. Total Suspended Solids (*TSS*)	1835	241.8					1	mg/l	lb			
e. Ammonia (*as N*)	0.5	0.0661					1	mg/l	lb			
f. Flow	VALUE 15,840 GALLONS				9,000 GPD		DAILY	GALLONS		VALUE		
g. Temperature (*winter*)	VALUE 20 C							68 °C		VALUE		
h. Temperature (*summer*)	VALUE N/A							°C		VALUE		
i. pH	MINIMUM 6.9	MAXIMUM 7.2	MINIMUM 6.9	MAXIMUM 7.2			4/MO	STANDARD UNITS				

—this is his TDS result

PART B – Mark "X" in column 2-a for each pollutant you know or have reason to believe is present. Mark "X" in column 2-b for each pollutant you believe to be absent. If you mark column 2a for any pollutant which is limited either directly or indirectly but expressly in an effluent limitations guideline, you must provide the results of at least one analysis for that pollutant. For other pollutants for which you mark column 2a, you must provide quantitative data or an explanation of their presence in your discharge. Complete one table for each outfall. See the instructions for additional details and requirements.

1. POLLUTANT AND CAS NO. (*if available*)	2. MARK "X" a. BELIEVED PRESENT	2. MARK "X" b. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. MAXIMUM DAILY VALUE (2) MASS	b. MAXIMUM 30 DAY VALUE (*if available*) (1) CONCENTRATION	b. MAXIMUM 30 DAY VALUE (*if available*) (2) MASS	c. LONG TERM AVRG. VALUE (*if available*) (1) CONCENTRATION	c. LONG TERM AVRG. VALUE (*if available*) (2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	4. UNITS b. MASS	5. INTAKE (*optional*) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	5. INTAKE a. LONG TERM AVERAGE VALUE (2) MASS	5. INTAKE b. NO. OF ANALYSES
a. Bromide (24959-67-9)		X												
b. Chlorine, Total Residual		X												
c. Color		X												
d. Fecal Coliform		X												
e. Fluoride (16984-48-8)	X		5.0 mg/l	0.6610					1	mg/l	lb			
f. Nitrate-Nitrite (*as N*)		X												

Ammended January 29, 2008

ITEM V-B CONTINUED FROM FRONT

1. POLLUTANT AND CAS NO. (if available)	2. MARK "X" a. BELIEVED PRESENT	2. MARK "X" b. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. MAXIMUM DAILY VALUE (2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	b. MAXIMUM 30 DAY VALUE (if available) (2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	c. LONG TERM AVRG. VALUE (if available) (2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	4. UNITS b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (2) MASS	5. INTAKE (optional) b. NO. OF ANALYSES
g. Nitrogen, Total Organic (as N)		X												
h. Oil and Grease		X												
i. Phosphorus (as P), Total (7723-14-0)		X												
j. Radioactivity														
(1) Alpha, Total	X		< 4.3 pCi/											
(2) Beta, Total	X		25.5 pCi/l											
(3) Radium, Total	X		0.4 pCi/l											
(4) Radium 226, Total	X		0.3 pCi/l											
k. Sulfate (as SO_4) (14808-79-8)	X		318 mg/l	41.90					1	mg/l	lb			
l. Sulfide (as S)		X												
m. Sulfite (as SO_3) (14265-45-3)		X												
n. Surfactants		X												
o. Aluminum, Total (7429-90-5)	X		14.0 ug/l	.002					1	ug/l	lb			
p. Barium, Total (7440-39-3)	X		> .50 ug/l	.000065					1	ug/l	lb			
q. Boron, Total (7440-42-8)		X												
r. Cobalt, Total (7440-48-4)		X												
s. Iron, Total (7439-89-6)	X		0.39 mg/l	.051						mg/l	lb			
t. Magnesium, Total (7439-95-4)	X		406 ug/l	.053						ug/l	lb			
u. Molybdenum, Total (7439-98-7)		X												
v. Manganese, Total (7439-96-5)		X												
w. Tin, Total (7440-31-5)		X												
x. Titanium, Total (7440-32-6)		X												

Ammended January 29, 2008

EPA I.D. NUMBER (*copy from Item 1 of Form 1*)	OUTFALL NUMBER

CONTINUED FROM PAGE 3 OF FORM 2-C

PART C - If you are a primary industry and this outfall contains process wastewater, refer to Table 2c-2 in the instructions to determine which of the GC/MS fractions you must test for. Mark "X" in column 2-a for all such GC/MS fractions that apply to your industry and for ALL toxic metals, cyanides, and total phenols. If you are not required to mark column 2-a (*secondary industries, nonprocess wastewater outfalls, and nonrequired GC/MS fractions*), mark "X" in column 2-b for each pollutant you know or have reason to believe is present. Mark "X" in column 2-c for each pollutant you believe is absent. If you mark column 2a for any pollutant, you must provide the results of at least one analysis for that pollutant. If you mark column 2b for any pollutant, you must provide the results of at least one analysis for that pollutant if you know or have reason to believe it will be discharged in concentrations of 10 ppb or greater. If you mark column 2b for acrolein, acrylonitrile, 2,4 dinitrophenol, or 2-methyl-4, 6 dinitrophenol, you must provide the results of at least one analysis for each of these pollutants which you know or have reason to believe that you discharge in concentrations of 100 ppb or greater. Otherwise, for pollutants for which you mark column 2b, you must either submit at least one analysis or briefly describe the reasons the pollutant is expected to be discharged. Note that there are 7 pages to this part; please review each carefully. Complete one table (*all 7 pages*) for each outfall. See instructions for additional details and requirements.

1. POLLUTANT AND CAS NUMBER (*if available*)	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (*optional*)		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (*if available*)		c. LONG TERM AVRG. VALUE (*if available*)		d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
METALS, CYANIDE, AND TOTAL PHENOLS															
1M. Antimony, Total (7440-36-0)			X												
2M. Arsenic, Total (7440-38-2)			X												
3M. Beryllium, Total (7440-41-7)			X												
4M. Cadmium, Total (7440-43-9)	X			<0.0002	.00002					1	mg/l	lb			
5M. Chromium, Total (7440-47-3)	X			0.006	.00079					1	mg/l	lb			
6M. Copper, Total (7440-50-8)	X			>0.002	.0008					1	mg/l	lb			
7M. Lead, Total (7439-92-1)	X			<0.002	<.0003					1	mg/l	lb			
8M. Mercury, Total (7439-97-6)	X			0.4	.00005					1	ug/l	lb			
9M. Nickel, Total (7440-02-0)			X												
10M. Selenium, Total (7782-49-2)			X												
11M. Silver, Total (7440-22-4)			X												
12M. Thallium, Total (7440-28-0)			X												
13M. Zinc, Total (7440-66-6)	X			<0.02	<.0026					1	mg/l	lb			
14M. Cyanide, Total (57-12-5)			X												
15M. Phenols, Total			X												
DIOXIN															
2,3,7,8-Tetrachlorodibenzo-P-Dioxin (1764-01-6)			X	DESCRIBE RESULTS											

Ammended January 29, 2008

x Dissolved

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVRG. VALUE (if available)		d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
GC/MS FRACTION – VOLATILE COMPOUNDS															
1V. Accrolein (107-02-8)			X												
2V. Acrylonitrile (107-13-1)			X												
3V. Benzene (71-43-2)			X												
4V. Bis (chloromethyl) Ether (542-88-1)			X												
5V. Bromoform (75-25-2)			X												
6V. Carbon Tetrachloride (56-23-5)			X												
7V. Chlorobenzene (108-90-7)			X												
8V. Chlorodibromomethane (124-48-1)			X												
9V. Chloroethane (75-00-3)			X												
10V. 2-Chloroethylvinyl Ether (110-75-8)			X												
11V. Chloroform (67-66-3)			X												
12V. Dichlorobromomethane (75-27-4)			X												
13V. Dichlorodifluoromethane (75-71-8)			X												
14V. 1,1-Dichloroethane (75-34-3)			X												
15V. 1,2-Dichloroethane (107-06-2)			X												
16V. 1,1-Dichloroethylene (75-35-4)			X												
17V. 1,2-Dichloropropane (78-87-5)			X												
18V. 1,3-Dichloropropylene (542-75-6)			X												
19V. Ethylbenzene (100-41-4)			X												
20V. Methyl Bromide (74-83-9)			X												
21V. Methyl Chloride (74-87-3)			X												

Ammended January 29, 2008

CONTINUED FROM PAGE V-4

1. POLLUTANT AND CAS NUMBER (*if available*)	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (*optional*)		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (*if available*)		c. LONG TERM AVRG. VALUE (*if available*)		d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
GC/MS FRACTION – VOLATILE COMPOUNDS (*continued*)															
22V. Methylene Chloride (75-09-2)			X												
23V. 1,1,2,2-Tetrachloroethane (79-34-5)			X												
24V. Tetrachloroethylene (127-18-4)			X												
25V. Toluene (108-88-3)			X												
26V. 1,2-Trans-Dichloroethylene (156-60-5)			X												
27V. 1,1,1-Trichloroethane (71-55-6)			X												
28V. 1,1,2-Trichloroethane (79-00-5)			X												
29V Trichloroethylene (79-01-6)			X												
30V. Trichlorofluoromethane (75-69-4)			X												
31V. Vinyl Chloride (75-01-4)			X												
GC/MS FRACTION – ACID COMPOUNDS															
1A. 2-Chlorophenol (95-57-8)			X												
2A. 2,4-Dichlorophenol (120-83-2)			X												
3A. 2,4-Dimethylphenol (105-67-9)			X												
4A. 4,6-Dinitro-O-Cresol (534-52-1)			X												
5A. 2,4-Dinitrophenol (51-28-5)			X												
6A. 2-Nitrophenol (88-75-5)			X												
7A. 4-Nitrophenol (100-02-7)			X												
8A. P-Chloro-M-Cresol (59-50-7)			X												
9A. Pentachlorophenol (87-86-5)			X												
10A. Phenol (108-95-2)			X												
11A. 2,4,6-Trichlorophenol (88-05-2)			X												

Ammended January 29, 2008

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVRG. VALUE (if available)		d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS															
1B. Acenaphthene (83-32-9)			X												
2B. Acenaphtylene (208-96-8)			X												
3B. Anthracene (120-12-7)			X												
4B. Benzidine (92-87-5)			X												
5B. Benzo (a) Anthracene (56-55-3)			X												
6B. Benzo (a) Pyrene (50-32-8)			X												
7B. 3,4-Benzo-fluoranthene (205-99-2)			X												
8B. Benzo (ghi) Perylene (191-24-2)			X												
9B. Benzo (k) Fluoranthene (207-08-9)			X												
10B. Bis (2-chloro-ethoxy) Methane (111-91-1)			X												
11B. Bis (2-chloro-ethyl) Ether (111-44-4)			X												
12B. Bis (2-Chloroisopropyl) Ether (102-80-1)			X												
13B. Bis (2-ethyl-hexyl) Phthalate (117-81-7)			X												
14B. 4-Bromophenyl Phenyl Ether (101-55-3)			X												
15B. Butyl Benzyl Phthalate (85-68-7)			X												
16B. 2-Chloro-naphthalene (91-58-7)			X												
17B. 4-Chloro-phenyl Phenyl Ether (7005-72-3)			X												
18B. Chrysene (218-01-9)			X												
19B. Dibenzo (a,h) Anthracene (53-70-3)			X												
20B. 1,2-Dichloro-benzene (95-50-1)			X												
21B. 1,3-Di-chloro-benzene (541-73-1)			X												

Ammended January 29, 2008

CONTINUED FROM PAGE V-6

1. POLLUTANT AND CAS NUMBER (*if available*)	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (*optional*)		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (*if available*)		c. LONG TERM AVRG. VALUE (*if available*)		d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS (*continued*)															
22B. 1,4-Dichlorobenzene (106-46-7)			X												
23B. 3,3-Dichlorobenzidine (91-94-1)			X												
24B. Diethyl Phthalate (84-66-2)			X												
25B. Dimethyl Phthalate (131-11-3)			X												
26B. Di-N-Butyl Phthalate (84-74-2)			X												
27B. 2,4-Dinitrotoluene (121-14-2)			X												
28B. 2,6-Dinitrotoluene (606-20-2)			X												
29B. Di-N-Octyl Phthalate (117-84-0)			X												
30B. 1,2-Diphenylhydrazine (*as Azobenzene*) (122-66-7)			X												
31B. Fluoranthene (206-44-0)			X												
32B. Fluorene (86-73-7)			X												
33B. Hexachlorobenzene (118-74-1)			X												
34B. Hexachlorobutadiene (87-68-3)			X												
35B. Hexachlorocyclopentadiene (77-47-4)			X												
36B. Hexachloroethane (67-72-1)			X												
37B. Indeno (1,2,3-*cd*) Pyrene (193-39-5)			X												
38B. Isophorone (78-59-1)			X												
39B. Naphthalene (91-20-3)			X												
40B. Nitrobenzene (98-95-3)			X												
41B. N-Nitrosodimethylamine (62-75-9)			X												
42B. N-Nitrosodi-N-Propylamine (621-64-7)			X												

Ammended January 29, 2008

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (*if available*)	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (*optional*)		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (*if available*)		c. LONG TERM AVRG. VALUE (*if available*)		d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS (*continued*)															
43B. N-Nitrosodiphenylamine (86-30-6)			X												
44B. Phenanthrene (85-01-8)			X												
45B. Pyrene (129-00-0)			X												
46B. 1,2,4-Trichlorobenzene (120-82-1)			X												
GC/MS FRACTION – PESTICIDES															
1P. Aldrin (309-00-2)			X												
2P. α-BHC (319-84-6)			X												
3P. β-BHC (319-85-7)			X												
4P. γ-BHC (58-89-9)			X												
5P. δ-BHC (319-86-8)			X												
6P. Chlordane (57-74-9)			X												
7P. 4,4'-DDT (50-29-3)			X												
8P. 4,4'-DDE (72-55-9)			X												
9P. 4,4'-DDD (72-54-8)			X												
10P. Dieldrin (60-57-1)			X												
11P. α-Enosulfan (115-29-7)			X												
12P. β-Endosulfan (115-29-7)			X												
13P. Endosulfan Sulfate (1031-07-8)			X												
14P. Endrin (72-20-8)			X												
15P. Endrin Aldehyde (7421-93-4)			X												
16P. Heptachlor (76-44-8)			X												

Ammended January 29, 2008

EPA I.D. NUMBER (*copy from Item 1 of Form 1*)	OUTFALL NUMBER

CONTINUED FROM PAGE V-8

1. POLLUTANT AND CAS NUMBER (*if available*)	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (*optional*)		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (*if available*)		c. LONG TERM AVRG. VALUE (*if available*)		d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
GC/MS FRACTION – PESTICIDES (*continued*)															
17P. Heptachlor Epoxide (1024-57-3)			X												
18P. PCB-1242 (53469-21-9)			X												
19P. PCB-1254 (11097-69-1)			X												
20P. PCB-1221 (11104-28-2)			X												
21P. PCB-1232 (11141-16-5)			X												
22P. PCB-1248 (12672-29-6)			X												
23P. PCB-1260 (11096-82-5)			X												
24P. PCB-1016 (12674-11-2)			X												
25P. Toxaphene (8001-35-2)			X												

Ammended January 29, 2008

ENVIROCOMPLIANCE LABORATORIES, INC.

10357 Old Keeton Road
Ashland, Virginia 23005
Phone 804 550 3971
Fax 804 550 3826

Analytical Summary

Charles City County
Attn: Public Works
10900 Courthouse Road
Charles City, VA 23030

Project No. : VA0085936
Project Name : MT. Zion R/O
Date Received: December 12, 2007
Date Sampled : December 12, 2007
Time Sampled : 10:00
Date Issued : January 23, 2008

Lab # 1(A-B)/Sample ID : Concentrate

Parameter	Result	Units	DL	Date/Time Prepared	Date/Time Analyzed	Method	Analyst
Sulfates	318	mg/l	1	12-12/1615	12-13/1615	300.0	GBH
Iron	0.39	mg/l	.20	12-13/0900	12-19/1328	3111B	GBH
Aluminum	14.0	ug/l	5.0	12-13/0900	12-20/1314	3111B	GBH
Barium	BDL	ug/l	50.0	12-13/0900	12-13/1429	3111B	GBH
Magnesium	406	ug/l	25	12-13/0930	01-15/1649	3111B	GBH
Temperature	68.0	°C	.1	12-12/1000	12-12/1000		ISW

BDL = Below Detection Limit
All methods are 40 CFR 136 March 12, 2007, Table IB approved.
Reference to Standard Methods is 18th ed.

Greg L. Hudson
Laboratory Director

R7C76380-1

ENVIROCOMPLIANCE LABORATORIES, INC.

10357 Old Keeton Road
Ashland, Virginia 23005
Phone 804 550 3971
Fax 804 550 3826

Analytical Summary

Charles City County
Attn: Public Works
10900 Courthouse Road
Charles City, VA 23030

Project No. : 4036500
Project Name : MT. Zion R/O
Date Received: October 24, 2007
Date Sampled : October 24, 2007
Time Sampled : 12:15
Date Issued : November 30, 2007

Lab # 1(A-D)/Sample ID : Outfall 001

Parameter	Result	Units	DL	Date/Time Prepared	Date/Time Analyzed	Method	Analyst
Gross Alpha	< 4.3	pCi/l	4.3	10-30/1200	10-31/1200	900.0	FRS
Radium-226	0.3	pCi/l	0.2	11-08/1200	11-16/1200	903.1	FRS
Total Radium	0.4	pCi/l	0.1	11-08/1200	11-18/1200	904.0	FRS
Gross Beta	25.5	pCi/l	4.2	10-30/1200	10-31/1200	900.0	FRS

BDL = Below Detection Limit
All methods are 40 CFR 136 March 12, 2007, Table IB approved.
Reference to Standard Methods is 18th ed.

Annie E. Sisk for
Greg L. Hudson
Laboratory Director

R7A75545-1

ENVIROCOMPLIANCE LABORATORIES, INC.

10357 Old Keeton Road
Ashland, Virginia 23005
Phone 804 550 3971
Fax 804 550 3826

Analytical Summary

Charles City County
Attn: Public Works
10900 Courthouse Road
Charles City, VA 23030

Project No. : VA0085936
Project Name : MT. Zion R/O
Date Received: December 06, 2007
Date Sampled : December 06, 2007
Time Sampled : 09:30
Date Issued : January 08, 2008

Lab # 1(A-C)/Sample ID : Outfall 001

Parameter	Result	Units	DL	Date/Time Prepared	Date/Time Analyzed	Method	Analyst
TDS	1835	mg/l	1	12-07/1430	12-10/0830	2540 C	ISW
Dissolved Copper	BDL	mg/l	.002	12-07/1000	12-07/1210	3111B	GBH
Dissolved Mercury	0.40	ug/l	.20	12-14/1230	12-14/1510	3112B	PEJ
Dissolved Chromium	0.006	mg/l	.002	12-07/1000	12-07/1850	3111B	GBH
Dissolved Lead	BDL	mg/l	.002	12-07/1000	12-07/1555	3111B	GBH
Dissolved Zinc	BDL	mg/l	.02	12-07/1000	12-12/1435	3111B	GBH
Diss. Chromium III	0.006	mg/l	.005	01-08/1515	01-08/1515		calc.
Diss. Hexavalent Chrome	BDL	mg/l	.01	12-06/1310	12-06/1350	3500CrD	MDM
Hardness	42	mg/l	1	12-06/1551	12-06/1554		R.R

BDL = Below Detection Limit
All methods are 40 CFR 136 March 12, 2007, Table IB approved.
Reference to Standard Methods is 18th ed.

Carrie E. Sisk
QA Coordinator

R7C76282-1

COMMONWEALTH OF VIRGINIA
COUNTY of CHARLES CITY

BOARD OF SUPERVISORS

GILBERT A. SMITH, CHAIRMAN
MICHAEL HOLMES, VICE-CHAIRMAN
TIMOTHY W. COTMAN, MEMBER

COUNTY ADMINISTRATOR

Jacqueline M. Wallace, Interim County Administrator

November 9, 2007

RECEIVED
NOV 13 2007
PRO

Ms. Denise M. Mosca
Environmental Specialist II
DEQ
4949-A Cox Road
Glen Allen, VA. 23060

RE: Additional Information and Amended EPA Form 3510-2C for Re-issuance of VPDES Permit No. VA0085936, Mt. Zion/Rustic Water Treatment Plant,

Dear Ms. Mosca,

Since DEQ would not allow a waiver on testing attached is the amended EPA Form 2C that includes testing for all variables required for R/O water treatment plants.

Listed below are replies that respond to your e-mail of October12, 2007:

FORM 2C

1. See amended 2C attached.
2. See amended 2C attached and lab results attached. Sodium Hypochlorite is added after the R/O and raw well water are blended. The discharge water has no "chlorine".
3. Waivers were requested and as I understand denied, that is why the amended 2C has been completed.

4. There has been no change in operations in the last 5 years. The process diagram from the 2002 reissue is more complete, as is shows more clearly how the flows from the R/O calculated. I have attached for inclusion in the reissue application.
5. MSDS sheets attached. Chemicals stored in chemical basin. Would have to be pumped to get into discharge ditch.
6. There are no solids collected by the R/O system.
7. Done.

Please contact me if you need any additional information.

Sincerely,

John F. Miniclier, Jr.
Director of Public Works Dept.

Jack Miniclier

From: Mosca,Denise [dmmosca@deq.virginia.gov]
Sent: Friday, October 12, 2007 1:40 PM
To: Jack Miniclier
Subject: Re: Application for VPDES Permit No. VA0085936 Mt. Zion and Rustic WTP
Attachments: PN_Billing_Info_Form.doc

October 12, 2007

John F, Miniclier, Jr.
Public Works Department
Charles City County
P.O. Box 128
Charles City, VA 23030

Re: Application for VPDES Permit No. VA0085936 Mt. Zion and Rustic WTP

Dear Mr. Miniclier:

We need additional information in order to process your application. **Please provide the following information by Monday, October 29, 2007 in order to avoid additional enforcement action.**

VPA Form 1

1. This form is not needed for the application. It will be returned to you along with a hard copy of this letter for your records.

VPDES Form 1

1. No items to cite were found.

Form 2C

1. Page 4 of 4, VIII Contract Analysis Information—The laboratory was not listed.
2. Page V-1, Part A. No analyses were provided for BOD, COD, TOC, TSS, Ammonia or winter and summer temperatures. Please either analyze the effluent for these parameters in accordance with the application instructions for sample type, or request a waiver giving a thorough justification for the request. My supervisor approves the waivers and considers the merits of each situation very carefully, based on whether the application package provides a solid informational support for the draft permit. Our permit manual specifies that for R.O. plants, data must be provided (and may not waived) for: Flow, TSS, pH, TDS, radioactivity, dissolved cadmium, dissolved chromium, dissolved copper, dissolved lead, dissolved mercury and dissolved zinc. Please provide the hardness of the discharged R.O. water. Residual chlorine must be tested because the finished water is chlorinated. Please make sure your revised application provides these data at a minimum, and the other parameters specified as required by the application. Alternatively, you may request a waiver of the other parameters specified by the application if you can provide a convincing justification.

3. The specific parameters to be waived must be spelled out in the request.

   Note on Page 2C-2 that the application instructions call for grab samples for pH, temperature, cyanide, total phenols, residual chlorine, oil and grease and fecal coliform. All other parameters require that 24-hr. composite samples be taken. TSS and ammonia samples, therefore, will have to be 24-hr composite samples. The nature of the dissolved metals sampling requires that these samples be grabs.

   You provided data from 1999 and 1997 in the package. Unfortunately, these data are not relevant to this application because they are not from the discharge from the R.O. unit and are not less than 3 years old. Nor is the data from September 2007 from the discharge from the R.O. unit. I noted what you said in your cover letter about the only variable that will change the discharge quality is the raw water quality. DEQ may take this into consideration in selecting monthly parameters for the draft permit, but once every 5 years more rigorous testing is needed for the application to support and defend assumptions like these.

4. The process diagram seems different from the previously supplied one from the old application. Have there been changes in the operation in the past 5 years?
5. Please provide MSDS sheets for the anti-scalant and the zinc ortho-phosphate. Where and how are these and the sulfuric acid and chlorine stored? What precautions are taken so that the listed chemicals and others do not end up in the R.O. unit discharge ditch?
6. Are there solids that are collected by the R.O. system? How are they disposed of and at what frequency?
7. Please complete and return the attached Public Notice Billing Information form with the application revision. Permit manual procedures now require this as part of a complete application.

Please address these comments by the October 29 date in order to complete your application so that a draft permit may be written to move the permit process along. It is to your benefit at this point to stay ahead of further enforcement action since this facility is presently discharging without a permit.

If you have any questions about this letter, please contact me at 804-527-5027 or dmmosca@deq.virginia.gov.

Sincerely,

Denise M. Mosca
Environmental Specialist II

Please print or type in the unshaded areas only.

Form Approved. OMB No. 2040-0086.

FORM 1 GENERAL

U.S. ENVIRONMENTAL PROTECTION AGENCY
GENERAL INFORMATION
Consolidated Permits Program
(Read the "General Instructions" before starting.)

I. EPA I.D. NUMBER

S			T/A	C
F				D
1 2		13	14	15

LABEL ITEMS	
I. EPA I.D. NUMBER	PLEASE PLACE LABEL IN THIS SPACE
III. FACILITY NAME	
V. FACILITY MAILING ADDRESS	
VI. FACILITY LOCATION	

GENERAL INSTRUCTIONS

If a preprinted label has been provided, affix it in the designated space. Review the information carefully; if any of it is incorrect, cross through it and enter the correct data in the appropriate fill-in area below. Also, if any of the preprinted data is absent *(the area to the left of the label space lists the information that should appear)*, please provide it in the proper fill-in area(s) below. If the label is complete and correct, you need not complete Items I, III, V, and VI *(except VI-B which must be completed regardless)*. Complete all items if no label has been provided. Refer to the instructions for detailed item descriptions and for the legal authorizations under which this data is collected.

II. POLLUTANT CHARACTERISTICS

INSTRUCTIONS: Complete A through J to determine whether you need to submit any permit application forms to the EPA. If you answer "yes" to any questions, you must submit this form and the supplemental form listed in the parenthesis following the question. Mark "X" in the box in the third column if the supplemental form is attached. If you answer "no" to each question, you need not submit any of these forms. You may answer "no" if your activity is excluded from permit requirements; see Section C of the instructions. See also, Section D of the instructions for definitions of **bold-faced terms**.

SPECIFIC QUESTIONS	Mark "X" YES	NO	FORM ATTACHED
A. Is this facility a **publicly owned treatment works** which results in a **discharge** to **waters of the U.S.**? (FORM 2A)		X	
	16	17	18
C. Is this a facility which currently results in **discharges** to **waters of the U.S.** other than those described in A or B above? (FORM 2C)	X		
	22	23	24
E. Does or will this facility treat, store, or dispose of **hazardous wastes**? (FORM 3)		X	
	28	29	30
G. Do you or will you inject at this facility any produced water or other fluids which are brought to the surface in connection with conventional oil or natural gas production, inject fluids used for enhanced recovery of oil or natural gas, or inject fluids for storage of liquid hydrocarbons? (FORM 4)		X	
	34	35	36
I. Is this facility a proposed **stationary source** which is one of the 28 industrial categories listed in the instructions and which will potentially emit 100 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)		X	
	40	41	42

SPECIFIC QUESTIONS	Mark "X" YES	NO	FORM ATTACHED
B. Does or will this facility *(either existing or proposed)* include a **concentrated animal feeding operation** or **aquatic animal production facility** which results in a **discharge** to **waters of the U.S.**? (FORM 2B)		X	
	19	20	21
D. Is this a proposed facility *(other than those described in A or B above)* which will result in a **discharge** to **waters of the U.S.**? (FORM 2D)		X	
	25	26	27
F. Do you or will you inject at this facility industrial or municipal effluent below the lowermost stratum containing, within one quarter mile of the well bore, underground sources of drinking water? (FORM 4)		X	
	31	32	33
H. Do you or will you inject at this facility fluids for special processes such as mining of sulfur by the Frasch process, solution mining of minerals, in situ combustion of fossil fuel, or recovery of geothermal energy? (FORM 4)		X	
	37	38	39
J. Is this facility a proposed **stationary source** which is NOT one of the 28 industrial categories listed in the instructions and which will potentially emit 250 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an **attainment area**? (FORM 5)		X	
	43	44	45

III. NAME OF FACILITY

1 SKIP: M T. ZION & RUSTIC WATER TREATMENT PLANT

IV. FACILITY CONTACT

A. NAME & TITLE *(last, first, & title)*	B. PHONE *(area code & no.)*
2 JOHN F. MINICLIER JR, DIRECTOR OF PUBLIC WORKS & UTILITI	(804) 652-4730

V. FACILTY MAILING ADDRESS

A. STREET OR P.O. BOX: 3 10900 COURTHOUSE ROAD

B. CITY OR TOWN	C. STATE	D. ZIP CODE
4 CHARLES CITY	VA	23030

VI. FACILITY LOCATION

A. STREET, ROUTE NO. OR OTHER SPECIFIC IDENTIFIER: 5 13400 WILCOX NECK ROAD

B. COUNTY NAME: CHARLES CITY

C. CITY OR TOWN	D. STATE	E. ZIP CODE	F. COUNTY CODE *(if known)*
6 CHARLES CITY	VA	23030	

EPA Form 3510-1 (8-90)

CONTINUE ON REVERSE

CONTINUED FROM THE FRONT

VII. SIC CODES *(4-digit, in order of priority)*

A. FIRST	B. SECOND
4941 *(specify)* WATER TREATMENT PLANT	*(specify)*

C. THIRD	D. FOURTH
(specify)	*(specify)*

VIII. OPERATOR INFORMATION

A. NAME

CHARLES CITY COUNTY DEPARTMENT OF P.W. & UTILITIES

B. Is the name listed in Item VIII-A also the owner? ☑ YES ☐ NO

C. STATUS OF OPERATOR *(Enter the appropriate letter into the answer box: if "Other," specify.)*

F = FEDERAL
S = STATE
P = PRIVATE
M = PUBLIC *(other than federal or state)*
O = OTHER *(specify)*

M *(specify)*

D. PHONE *(area code & no.)*

A (804) 652-4730

E. STREET OR P.O. BOX

10900 COURTHOUSE ROAD

F. CITY OR TOWN

CHARLES CITY

G. STATE

VA

H. ZIP CODE

23030

IX. INDIAN LAND

Is the facility located on Indian lands? ☐ YES ☑ NO

X. EXISTING ENVIRONMENTAL PERMITS

A. NPDES *(Discharges to Surface Water)*

9 N VA0085936

D. PSD *(Air Emissions from Proposed Sources)*

9 P

B. UIC *(Underground Injection of Fluids)*

9 U

E. OTHER *(specify)*

9 *(specify)*

C. RCRA *(Hazardous Wastes)*

9 R

E. OTHER *(specify)*

9 *(specify)*

XI. MAP

Attach to this application a topographic map of the area extending to at least one mile beyond property boundaries. The map must show the outline of the facility, the location of each of its existing and proposed intake and discharge structures, each of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects fluids underground. Include all springs, rivers, and other surface water bodies in the map area. See instructions for precise requirements.

XII. NATURE OF BUSINESS *(provide a brief description)*

MT. ZION &RUSTIC WATER TREATMENT PLANT PROVIDES POTABLE WATER TO MT. ZION & RUSTIC RESIDENTIAL AREA BY MEANS OF REVERSE OSMOSIS TREATMENT.

XIII. CERTIFICATION *(see instructions)*

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that, based on my inquiry of those persons immediately responsible for obtaining the information contained in the application, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME & OFFICIAL TITLE *(type or print)*	B. SIGNATURE	C. DATE SIGNED
JACQUELINE M. WALLACE INTERIM COUNTY ADMINISTRATOR	Jacqueline Wallace	10/02/07

COMMENTS FOR OFFICIAL USE ONLY

C

CONTINUED FROM THE FRONT

VII. BIOLOGICAL TOXICITY TESTING DATA

Do you have any knowledge or reason to believe that any biological test for acute or chronic toxicity has been made on any of your discharges or on a receiving water in relation to your discharge within the last 3 years?

☐ YES (*identify the test(s) and describe their purposes below*) ☑ NO (*go to Section VIII*)

VIII. CONTRACT ANALYSIS INFORMATION

Were any of the analyses reported in Item V performed by a contract laboratory or consulting firm?

☑ YES (*list the name, address, and telephone number of, and pollutants analyzed by, each such laboratory or firm below*) ☐ NO (*go to Section IX*)

A. NAME	B. ADDRESS	C. TELEPHONE (*area code & no.*)	D. POLLUTANTS ANALYZED (*list*)
Envirocompliance	10367 Old Keeton Road, Ashland, Va. 23005	804-550-3971	TOC, Floride, COD, Zinc, Cadium, Chromium, Copper, Mercury, Lead, BOD,TSS, Alpha total, Beta total,Radium total and Radium 226.

IX. CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

A. NAME & OFFICIAL TITLE (*type or print*)	B. PHONE NO. (*area code & no.*)
JACQUELINE M. WALLACE, INTERIM COUNTY ADMINISTRATOR	(804) 652-4701
C. SIGNATURE	D. DATE SIGNED

PLEASE PRINT OR TYPE IN THE UNSHADED AREAS ONLY. You may report some or all of this information on separate sheets (*use the same format*) instead of completing these pages. SEE INSTRUCTIONS.

EPA I.D. NUMBER (*copy from Item 1 of Form 1*)

V. INTAKE AND EFFLUENT CHARACTERISTICS *(continued from page 3 of Form 2-C)*

OUTFALL NO.

PART A –You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

1. POLLUTANT	2. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. MAXIMUM DAILY VALUE (2) MASS	b. MAXIMUM 30 DAY VALUE (*if available*) (1) CONCENTRATION	b. MAXIMUM 30 DAY VALUE (*if available*) (2) MASS	c. LONG TERM AVRG. VALUE (*if available*) (1) CONCENTRATION	c. LONG TERM AVRG. VALUE (*if available*) (2) MASS	d. NO. OF ANALYSES	3. UNITS (*specify if blank*) a. CONCENTRATION	3. UNITS b. MASS	4. INTAKE (*optional*) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	4. INTAKE a. LONG TERM AVERAGE VALUE (2) MASS	4. INTAKE b. NO. OF ANALYSES
a. Biochemical Oxygen Demand (*BOD*)	<2.0	<0.2664					1	mg/l	lb			
b. Chemical Oxygen Demand (*COD*)	<2.0	<0.2644					1	mg/l	lb			
c. Total Organic Carbon (*TOC*)	1.8	0.2380					1	mg/l	lb			
d. Total Suspended Solids (*TSS*)	<1.0	<0.1322					1	mg/l	lb			
e. Ammonia (*as N*)	0.5	0.0661					1	mg/l	lb			
f. Flow	VALUE 15,840 GALLONS		VALUE		VALUE 9,000 GPD		DAILY	GALLONS		VALUE		
g. Temperature (*winter*)	VALUE N/A		VALUE		VALUE			°C		VALUE		
h. Temperature (*summer*)	VALUE N/A		VALUE		VALUE			°C		VALUE		
i. pH	MINIMUM 6.9	MAXIMUM 7.2	MINIMUM 6.9	MAXIMUM 7.2			4/MO	STANDARD UNITS				

PART B – Mark "X" in column 2-a for each pollutant you know or have reason to believe is present. Mark "X" in column 2-b for each pollutant you believe to be absent. If you mark column 2a for any pollutant which is limited either directly, or indirectly but expressly, in an effluent limitations guideline, you must provide the results of at least one analysis for that pollutant. For other pollutants for which you mark column 2a, you must provide quantitative data or an explanation of their presence in your discharge. Complete one table for each outfall. See the instructions for additional details and requirements.

1. POLLUTANT AND CAS NO. (*if available*)	2. MARK "X" a. BELIEVED PRESENT	2. MARK "X" b. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. MAXIMUM DAILY VALUE (2) MASS	b. MAXIMUM 30 DAY VALUE (*if available*) (1) CONCENTRATION	b. MAXIMUM 30 DAY VALUE (*if available*) (2) MASS	c. LONG TERM AVRG. VALUE (*if available*) (1) CONCENTRATION	c. LONG TERM AVRG. VALUE (*if available*) (2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	4. UNITS b. MASS	5. INTAKE (*optional*) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	5. INTAKE a. LONG TERM AVERAGE VALUE (2) MASS	5. INTAKE b. NO. OF ANALYSES
a. Bromide (24959-67-9)		X												
b. Chlorine, Total Residual		X												
c. Color		X												
d. Fecal Coliform		X												
e. Fluoride (16984-48-8)	X		5.0 mg/l	0.6610					1	mg/l	lb			
f. Nitrate-Nitrite (*as N*)		X												

ITEM V-B CONTINUED FROM FRONT

1. POLLUTANT AND CAS NO. (*if available*)	2. MARK "X"		3. EFFLUENT							4. UNITS		5. INTAKE (*optional*)		
	a. BELIEVED PRESENT	b. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (*if available*)		c. LONG TERM AVRG. VALUE (*if available*)		d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANALYSES
			(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
g. Nitrogen, Total Organic (*as N*)		X												
h. Oil and Grease		X												
i. Phosphorus (as P), Total (7723-14-0)		X												
j. Radioactivity														
(1) Alpha, Total	X		lab											
(2) Beta, Total	X		lab											
(3) Radium, Total	X		lab											
(4) Radium 226, Total	X		lab											
k. Sulfate (*as SO$_4$*) (14808-79-8)		X												
l. Sulfide (*as S*)		X												
m. Sulfite (*as SO$_3$*) (14265-45-3)		X												
n. Surfactants		X												
o. Aluminum, Total (7429-90-5)		X												
p. Barium, Total (7440-39-3)		X												
q. Boron, Total (7440-42-8)		X												
r. Cobalt, Total (7440-48-4)		X												
s. Iron, Total (7439-89-6)		X												
t. Magnesium, Total (7439-95-4)		X												
u. Molybdenum, Total (7439-98-7)		X												
v. Manganese, Total (7439-96-5)		X												
w. Tin, Total (7440-31-5)		X												
x. Titanium, Total (7440-32-6)		X												

CONTINUE ON PAGE V-3

EPA I.D. NUMBER (*copy from Item 1 of Form 1*)	OUTFALL NUMBER

CONTINUED FROM PAGE 3 OF FORM 2-C

PART C - If you are a primary industry and this outfall contains process wastewater, refer to Table 2c-2 in the instructions to determine which of the GC/MS fractions you must test for. Mark "X" in column 2-a for all such GC/MS fractions that apply to your industry and for ALL toxic metals, cyanides, and total phenols. If you are not required to mark column 2-a (*secondary industries, nonprocess wastewater outfalls, and nonrequired GC/MS fractions*), mark "X" in column 2-b for each pollutant you know or have reason to believe is present. Mark "X" in column 2-c for each pollutant you believe is absent. If you mark column 2a for any pollutant, you must provide the results of at least one analysis for that pollutant. If you mark column 2b for any pollutant, you must provide the results of at least one analysis for that pollutant if you know or have reason to believe it will be discharged in concentrations of 10 ppb or greater. If you mark column 2b for acrolein, acrylonitrile, 2,4 dinitrophenol, or 2-methyl-4, 6 dinitrophenol, you must provide the results of at least one analysis for each of these pollutants which you know or have reason to believe that you discharge in concentrations of 100 ppb or greater. Otherwise, for pollutants for which you mark column 2b, you must either submit at least one analysis or briefly describe the reasons the pollutant is expected to be discharged. Note that there are 7 pages to this part; please review each carefully. Complete one table (*all 7 pages*) for each outfall. See instructions for additional details and requirements.

1. POLLUTANT AND CAS NUMBER (*if available*)	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (*optional*)		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (*if available*)		c. LONG TERM AVRG. VALUE (*if available*)		d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
METALS, CYANIDE, AND TOTAL PHENOLS															
1M. Antimony, Total (7440-36-0)			X												
2M. Arsenic, Total (7440-38-2)			X												
3M. Beryllium, Total (7440-41-7)			X												
4M. Cadmium, Total (7440-43-9)	X			<0.0002						1	mg/l	lb			
5M. Chromium, Total (7440-47-3)	X			0.003	.0004					1	mg/l	lb			
6M. Copper, Total (7440-50-8)	X			0.006	.0008					1	mg/l	lb			
7M. Lead, Total (7439-92-1)	X			<0.5	<.0661					1	mg/l	lb			
8M. Mercury, Total (7439-97-6)	X			<0.002	<.0003					1	mg/l	lb			
9M. Nickel, Total (7440-02-0)			X												
10M. Selenium, Total (7782-49-2)			X												
11M. Silver, Total (7440-22-4)			X												
12M. Thallium, Total (7440-28-0)			X												
13M. Zinc, Total (7440-66-6)	X			<0.02	<.0026					1	mg/l	lb			
14M. Cyanide, Total (57-12-5)			X												
15M. Phenols, Total			X												
DIOXIN															
2,3,7,8-Tetra-chlorodibenzo-P-Dioxin (1764-01-6)			X	DESCRIBE RESULTS											

ENVIROCOMPLIANCE LABORATORIES, INC.

10357 Old Keeton Road
Ashland, Virginia 23005
Phone 804 550 3971
Fax 804 550 3826

Analytical Summary

Charles City County
Attn:
10900 Courthouse Road
Charles City, VA 23030

Project No. : 4036500
Project Name : MT. Zion R/O
Date Received: October 24, 2007
Date Sampled : October 24, 2007
Time Sampled : 12:15
Date Issued : October 31, 2007

Lab # 1(A-D)/Sample ID : Outfall 001

Parameter	Result	Units	DL	Date/Time Prepared	Date/Time Analyzed	Method	Analyst
TOC	1.8	mg/l	1.0	10-31/1330	10-31/1500	5310	PEJ
Fluoride	5	mg/l	1	10-30/1444	10-30/1444	300.0	SET
COD	BDL	mg/l	20	10-25/0945	10-26/0830	5220D	R.R
Zinc	BDL	mg/l	.02	10-30/1000	10-31/1321	3111B	GBH
Cadmium	BDL	mg/l	.0002	10-30/1000	10-31/1038	3111B	GBH
Chromium	0.003	mg/l	.002	10-30/1000	10-30/1808	3111B	GBH
Copper	0.006	mg/l	.002	10-30/1000	10-30/1459	3111B	GBH
Mercury	BDL	mg/l	.002	10-31/1230	10-31/1510	3112B	PEJ
Lead	BDL	mg/l	.5	10-31/1230	10-31/1430	3111B	PEJ

BDL = Below Detection Limit
All methods are 40 CFR 136 March 12, 2007, Table IB approved.
Reference to Standard Methods is 18th ed.

Carrie E. Sisk
QA Coordinator

R7A75545-1

ENVIROCOMPLIANCE LABORATORIES, INC.

10357 Old Keelon Road
Ashland, Virginia 23005
Phone 804 550 3971
Fax 804 550 3826

Analytical Summary

Charles City County
Attn: Frank Crump
10900 Courthouse Road
Charles City, VA 23030

Project No. : 4036580
Project Name : MT. Zion R/O
Date Received: October 23, 2007
Date Sampled : October 23, 2007
Time Sampled : 08:30
Date Issued : October 30, 2007

Lab # 1(A)/Sample ID : Final Concentrate

Parameter	Result	Units	DL	Date/Time Prepared	Date/Time Analyzed	Method	Analyst
BOD	< 2	mg/l	2	10-23/1220	10-28/1415	5210 B	R.R

BDL = Below Detection Limit
All methods are 40 CFR 136 March 12, 2007, Table IB approved.
Reference to Standard Methods is 18th ed.

Carrie E. Sisk
QA Coordinator

R7A75506-1

ENVIROCOMPLIANCE LABORATORIES, INC.

10357 Old Keeton Road
Ashland, Virginia 23005
Phone 804 550 3971
Fax 804 550 3826

Analytical Summary

Charles City County
Attn:
10900 Courthouse Road
Charles City, VA 23030

Project No. : 4036580
Project Name : MT. Zion R/O
Date Received: October 23, 2007
Date Sampled : October 22, 2007
Time Sampled : 05:10-12:10
Date Issued : November 06, 2007

Lab # 1(A-B)/Sample ID : Final Concentrate

Parameter	Result	Units	DL	Date/Time Prepared	Date/Time Analyzed	Method	Analyst
TSS	< 1.0	mg/l	1.0	10-26/0930	10-29/0730	2540 D	ISW
Ammonia (as N)	0.5	mg/l	.1	10-26/1300	10-26/1330	4500-NH3 H	MDM

BDL = Below Detection Limit
All methods are 40 CFR 136 March 12, 2007, Table IB approved.
Reference to Standard Methods is 18th ed.

Carrie E. Sisk
QA Coordinator

R7A75507-1

Transmission Report

Date/Time	11-08-2007	05:33:38 p.m.	Transmit Header Text	CHARLES CITY COUNTY
Local ID 1	8295819		Local Name 1	CHARLES CITY COUNTY
Local ID 2			Local Name 2	Line 2

This document : Confirmed
(reduced sample and details below)
Document size : 8.5"x11"

COUNTY OF CHARLES CITY

FACSIMILE TRANSMITTAL SHEET

TO:	FROM:
Denise Musca	Joanne Johnson
COMPANY:	DATE:
DEQ.	11/8/2007
FAX NUMBER:	FAX NUMBER:
(804) 527-5106	(804) 829-5819
PHONE NUMBER	PHONE NUMBER
	(804) 652-4730
RE:	TOTAL NO. OF PAGES, INCLUDING COVER:
	4

X FOR REVIEW ☐ PLEASE COMMENT ☐ PLEASE REPLY ☐ PLEASE RECYCLE

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Abbreviations:
HS: Host send
HR: Host receive
WS: Waiting send
PL: Polled local
PR: Polled remote
MS: Mailbox save
MP: Mailbox print
CP: Completed
FA: Fail
TU: Terminated by user
TS: Terminated by system
RP: Report
G3: Group 3
EC: Error Correct

Univar USA Inc.
6100 Carillon Point
Kirkland, WA 98033
PO Box 34325
Seattle, WA
98124-1325 USA

T 425 889 3400
F 425 889 4100

www.univarusa.com

MSDS SHEETS

UNIVAR

To: **WALTER HARRIS**
Company: CHARLES CITY COUNTY
Fax: 1804-829-5819
Phone:

From: **CARRIE JORDAN**
Fax: (804) 748-2904
Phone: (804) 748-8100
E-mail: carrie.jordan@univarusa.com

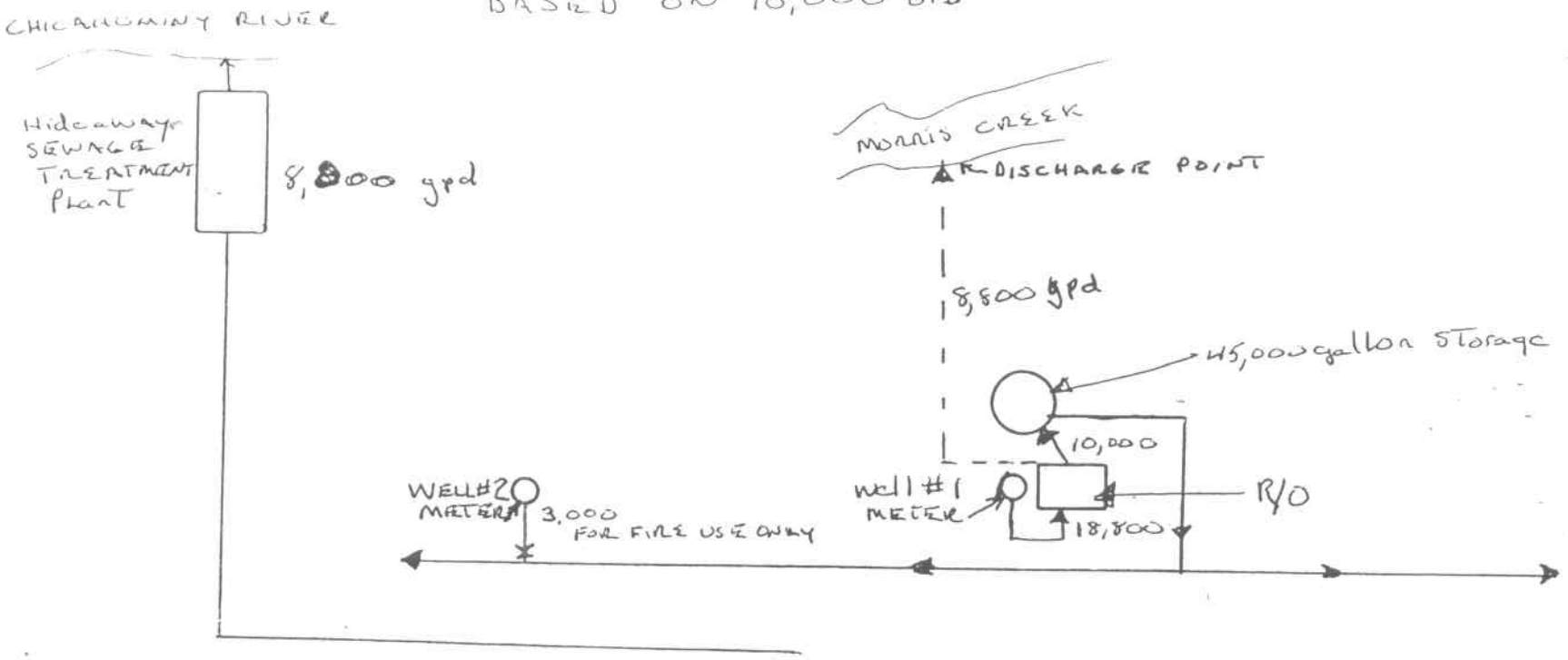
NOTES:

OFFICE OF PUBLIC WORKS

Date and time of transmission: Monday, October 15, 2007 7:30:56 AM
Number of pages including this cover sheet: 15

MT. ZION / RUSTIC WATER TREATMENT PLANT

BASED ON 10,000 GPD



WELL PRODUCES 1,410 gph
PLANT PRODUCES 750 gph for system
PLANT Discharges 660 gph
STORAGE TANK cut on 16.5 feet
STORAGE TANK cut off 21.0 feet
EACH foot of storage = 1,875 gal.
4.5 feet = 8438 gallons
Depending on demand (Time of day) MORE WATER may be consumed Than produced.
PLANT OPERATES approximately 53% of the hours available.
Discharge is intermittent and does not ~~exceed~~ 11 gpm.
Duration normaly 14 hr. To 42 hr.

R/O = 23.5 gpm from well
12.5 gpm To storage TANK AVAILABLE FOR SYSTEM
11.0 gpm CONCENTRATE DISCHARGED MORRIS CREEK

FOR 10,000 gallon To system.

$\frac{12.5}{23.5} * 10{,}000 = 18{,}800$ g. From well

∴ 8,800 gallons Discharged

018 02/12/07 SULFURIC ACID 77% - 100%

PRODUCT NAME: SULFURIC ACID 77% - 100%

MSDS NUMBER: DQ4950CR

DATE ISSUED: 01/24/2007

SUPERSEDES: 01/24/2005

ISSUED BY: 004690

****
****

Material Safety Data Sheet

WHIMS (Classification)
CLASS D-I A : Very toxic material causing immediate and serious effects
CLASS E : Corrosive material

SECTION 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Trade Name SULFURIC ACID 77% - 100%
Product Code None

Distributed by:
Univar USA Inc.
17425 NE Union Hill Road
Redmond, WA 98052
425-889-3400

Phone Number (Transportation Emergency)
U.S.A. 1-800-424-9300 CHEMTREC

Synonyms Dihydrogen Sulfate ; Oil of Vitriol ; Vitriol Brown Oil
Acide sulfurique (French)

DSL (Domestic Substance List): Listed

Name / Chemical Formula: Sulfuric Acid / H2SO4
Chemical Family: Acid
Utilization: Chemical industries

SECTION 2. COMPOSITION AND INFORMATION ON INGREDIENTS

			Exposure Limits	
			ACGIH (U.S.A.) 2006	OSHA (U.S.A.)
Name	CAS #	Percentage %	TLV-TWA (mg/m3)	PEL - TWA (mg/m3)
Sulfuric (Acid)	7664-93-9	77 % to 100 %	0.2 (thoracic fr.)	1
60 Deg Technical		77.7		
66 Deg Technical		93.2		
1.835 Electrolyte		93.2		
98 % Technical		98		
99 % Technical		99		
100 % Technical		100		
Water	7732-18-5	0-22	N/E	N/E

N/E = Not established

ACGIH : American Conference of Governmental Industrial Hygienists.
OSHA : Occupational Safety and Health Administration.

Note : Sulfuric (Acid) : Exposure limits may be different in other jurisdictions. NIOSH REL-TWA (.10 hours) : 1 mg/m3 ; IDLH : 15 mg/m3.

ORAL acute (LD50) : 2 140 mg/kg (Rat) ; INHALATION acute (LC50, 2 hours) : 510 mg/m3 (Rat) ; 320 mg/m3 (Mouse). (RTECS).

Consult local authorities for acceptable exposure limits.

SECTION 3. RISK IDENTIFICATION FOR HUMAN HEALTH

Routes of Entry

Ingestion. Inhalation. Skin and eye contacts.

Carcinogenicity

Strong inorganic acid mists containing sulfuric acid (Occupational exposures): PROVEN (Human, Group 1, IARC) ; SUSPECTED (Human, Group A2, ACGIH) ; Group X (NTP) ; Classification not applicable to sulfuric acid and sulfuric acid solutions.

Mutagenicity

Not applicable.

Teratogenicity

Not applicable.

Acute Effects

Sulfuric (Acid) : May be fatal if inhaled or ingested in large quantity. Liquids or acid mists : May produce tissue damage : Mucous membranes (Eyes, mouth, respiratory tract). Extremely dangerous by eyes and skin contact (Corrosive). Severe irritant for eyes : Inflammation (Redness, watering, itching). Very dangerous in case of inhalation (Mists) at high concentrations : May produce severe irritation of respiratory tract (Coughing, shortness of breath, choking).

SECTION 4. FIRST AID MEASURES

Eye Contact

Remove contact lenses if present. Immediately flush eyes with plenty of water, holding eyelids open for at least 15 minutes. Consult a physician. Possibility of conjunctivitis, severe irritation, severe burns, permanent eye

d
amage.

S
kin Contact
R
emove contaminated clothing and shoes as quickly as possible protecting your
h
ands and body. Place under a deluge shower for 15 minutes. Flush exposed
s
kin gently and thoroughly with running water (Pay particular attention to :
F
olds, crevices, creases, groin). Call a physician if irritation persists.
M
ay irritate skin, cause burns (Highly corrosive) and possibility of some
s
carring.
W
ash contaminated clothing before reusing. While the patient is being
t
ransported to a medical facility, continue the application of cold, wet
c
ompresses. If medical treatment must be delayed, repeat the flushing with
c
old water or soak the affected area with cold water to help remove the last
t
races of sulfuric acid. Creams or ointments SHOULD NOT be applied before or
d
uring the washing phase of treatment.

I
nhalation
T
ake precautions to avoid secondary contamination by residual acids. Remove
t
he person to fresh air. If not breathing, give artificial respiration.
D
ifficult breathing : Give oxygen. Get immediate medical attention.
P
ossibility of damage to the upper respiratory tract and lung tissues.
M
aintain observation of the patient for delayed onset of pulmonary edema.
M
ay cause irritation to the upper respiratory tract : Coughing, sore throat,
s
hortness of breath.

I
ngestion
D
O NOT INDUCE VOMITING. Conscious and alert person : Rinse mouth with water
a
nd give 1/2 to 1 cup of water or milk to dilute material. Spontaneous
v
omiting : Keep head below hips to prevent aspiration ; Rinse mouth and give
1
/2 to 1 cup of water or milk. UNCONSCIOUS person : DO NOT induce vomiting or
g
ive any liquid. Immediately obtain medical attention.

N
otes to Physicians
C
ontinued washing of the affected area with cold or iced water will be
h
elpful in removing the last traces of sulfuric acid. Creams or ointments

s
hould not be applied before or during the washing phase of the treatment.

S
ECTION 5. FIRE AND EXPLOSION DATA

F
lash Point
N
ot available

F
lammable Limits
N
ot available

A
uto-Ignition Temperature
N
ot available

P
roducts of Combustion
R
eleases of sulfur dioxide at extremely high temperatures.

F
ire Hazard
N
ot flammable

E
xplosion Hazard
R
eacts with most metals, especially when dilute : Hydrogen gas release
(
Extremely flammable, explosive). Risk of explosion when acid combined with
w
ater organic materials or base solutions in enclosed spaces (Vacuum trucks,
t
anks). Follow appropriate National Fire Protection Association (NFPA) codes.

F
ire Fighting (Instructions)
U
se media appropriate for surrounding material. Use water spray to cool
c
ontainers exposed to fire ; DO NOT get water inside containers.

E
vacuate personnel to a safe area. Keep personnel removed and upwind of fire.
G
enerates heat upon addition of water, with possibility of spattering. Wear
f
ull protective clothing. Runoff from fire control may cause pollution.
N
eutralize run-off with lime, soda ash, etc., to prevent corrosion of metals
a
nd formation of hydrogen gas. Wear self-contained breathing apparatus if
f
umes or mists are present.

S
ECTION 6. ACCIDENTAL RELEASE MEASURES

S

pill
R
eview Fire and Explosion Hazards and Safety Precautions before proceeding
w
ith clean up. Stop flow if possible. Soak up small spills with dry sand,
c
lay or diatomaceous earth.
D
ike large spills, and cautiously dilute and neutralize with lime or soda
a
sh, and transfer to waste water treatment system. Prevent liquid from
e
ntering sewers, waterways, or low areas.
I
f this product is spilled and not recovered, or is recovered as a waste for
t
reatment or disposal, the Reportable Quantity (U.S. DOT) is 1 000 lbs (Based
o
n the sulfuric acid content of the solution spilled). Comply with Federal,
S
tate, and local regulations on reporting releases.

P
ersonal Protection
R
eview Fire Fighting Measures and Handling (Personnel Protection) sections
b
efore proceeding with cleanup. Use appropriate PERSONAL PROTECTIVE EQUIPMENT
d
uring clean-up.

S
ECTION 7. HANDLING AND STORAGE / ENGINEERING CONTROLS AND PERSONAL
P
ROTECTION

H
andling
D
o not get in eyes, on skin, or on clothing. Avoid breathing vapors or mist.
W
ear approved respirators if adequate ventilation cannot be provided. Wash
t
horoughly after handling. Ingestion or inhalation : Seek medical advice
i
mmediately and provide medical personnel with a copy of this MSDS.

S
torage
K
eep container tightly closed and closure up (Drum) to prevent leakage. DO
N
OT add water to contents while in container because of violent reaction.
K
eep out of sun and away from heat, sparks, and flame.
L
oosen closure carefully. Relieve internal pressure when received and at
l
east weekly thereafter. DO NOT use pressure to empty. Be sure closure is
s
ecurely fastened before moving container. DO NOT wash out container or use
i
t for other purposes ; Replace closure after each withdrawal and return it
w
ith empty container.

S
ECTION 8. ENGINEERING CONTROLS AND PERSONAL PROTECTION

E
ngineering Controls
G
ood general ventilation should be provided to keep vapor and mist
c
oncentrations below the exposure limits.

P
ersonal Protection
C
hemical splash goggles ; Full-length face shield/chemical splash goggles
c
ombination ; Acid-proof gauntlet gloves, apron, and boots ; Long sleeve
w
ool, acrylic, or polyester clothing ; Acid proof suit and hood ; Appropriate
N
IOSH respiratory protection.
I
n case of emergency or where there is a strong possibility of considerable
e
xposure, wear a complete acid suit with hood, boots, and gloves. If acid
v
apor or mist are present and exposure limits may be exceeded, wear
a
ppropriate NIOSH respiratory protection.

S
ECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

P hysical State and Appearance	Liquid (Oily ; Clear to turbid)
O dor	Odorless
M olecular Weight	98.08
C olor	Colorless to light grey
p H (1% soln/water)	< 1
V olatility	< 1 (Butyl Acetate = 1.0)
B oiling Point	193 deg C to 327 deg C (379 deg F to 621 deg F) @ 760 mm Hg
V apor Density	3.4
M elting Point	-35 deg C to 11 deg C (-31 deg F to 52 deg F)
D ispersion	Yes (Water)
V apor Pressure	< 0.3 mm Hg @ 25 deg C (77 deg F) < 0.6 mm Hg @ 38 deg C (100 deg F)
S olubility	Yes (Water)

G RADE	Boiling Point DEG deg C	DEG deg F	Freezing Point DEG deg C	DEG deg F
6 0 DEG TECHNICAL	193	380	- 12	10

66 DEG TECHNICAL	279	535	- 35	- 31
1.835 ELECTROLYTE	279	535	- 35	- 31
98 % TECHNICAL	327	621	- 2	29
99 % TECHNICAL	310	590	4	40
100 % TECHNICAL	274	526	11	51

Specific Gravity

60 DEG TECHNICAL	1.706
66 DEG TECHNICAL	1.835
1.835 ELECTROLYTE	1.835
98 % TECHNICAL	1.844
99 % TECHNICAL	1.842
100 % TECHNICAL	1.839

SECTION 10. STABILITY AND REACTIVITY DATA

Stability
Yes

Conditions of Instability
Reacts violently with water and organic materials with evolution of heat.

Polymerization
Polymerization will not occur.

Incompatibilities
Vigorous reactions with : Water; alkaline solutions ; Metals, metal powder ; Carbides ; Chlorates ; Fulminates ; nitrates ; Picrates ; Strong oxidizing, reducing, or combustible organic materials. Hazardous gases are evolved on contact with chemicals such as cyanides, sulfides, and carbides.

Corrosivity
Yes

SECTION 11. TOXICOLOGICAL INFORMATION

Chronic Effects

S
ulfuric (Acid) : Overexposure to strong inorganic mists containing sulfuric
a
cid : Possibility of laryngeal cancer (HSBD, IARC). Target organs for acute
a
nd chronic overexposure (NIOSH 90-117) : Respiratory system, eyes, skin,
t
eeth.

M
ists : Possibility of irritation of the nose and throat with sneezing, sore
t
hroat or runny nose. Headache, nausea and weakness. Gross overexposure :
P
ossibility of irritation of nose, throat, and lungs with cough, difficulty
b
reathing or shortness of breath. Pulmonary edema with cough, wheezing,
a
bnormal lung sounds, possibly progressing to severe shortness of breath and
b
luish discoloration of the skin. Symptoms may be delayed. Repeated or
p
rolonged exposure to mists may cause : Corrosion of teeth.

C
ontact (Skin) : Possibility of corrosion, burns or ulcers. Contact with a 1%
s
olution : Possibility of slight irritation with itching, redness or
s
welling. Repeated or prolonged exposure (Mist) : Possibility of irritation
w
ith itching, burning, redness, swelling or rash.

C
ontact (Eye) : Possibility of corrosion or ulceration (Blindness may
r
esult). Repeated or prolonged exposure (Mist) : Possibility of eye
i
rritation with tearing, pain or blurred vision.

I
ngestion : Immediate effects of overexposure : Burns of the mouth, throat,
e
sophagus and stomach, with severe pain, bleeding, vomiting, diarrhea and
c
ollapse of blood pressure. Damage may appear days after exposure.

T
oxicity
P
ersons with the following pre-existing conditions warrant particular
a
ttention :
S
ulfuric (Acid) : Laryngeal irritation.
E
ating, drinking and smoking must be prohibited in areas where this material
i
s handled and processed. Wash hands and face before eating, drinking and
s
moking.

S
ECTION 12. ECOTOX1COLOGICAL INFORMATION

E

cotoxicity
A
quatic toxicity : Slightly to moderately toxic.
B
luegill Sunfish (LC50 ; 48 hours) : 49 mg/L (Tap water, 20 deg C,
c
onditions of bioassay not specified). (HSBD).
F
lounder (LC50 ; 48 hours) : 100-330 mg/1 (Aerated water, conditions of
b
ioassay not specified). (HSBD).

T
oxicity to Animals
E
YE : Concentrated compound is corrosive. 10 % solution : Moderate eye
i
rritant.
S
KIN : Concentrated compound is corrosive. 10 % solution : Slight skin
i
rritant.
S
ingle and repeated exposure : Irritation of the respiratory tract ;
C
orrosion of the respiratory tract ; Lung damage ; Labored breathing ;
A
ltered respiratory rate ; Pulmonary edema. Repeated exposure : Altered red
b
lood cell count.

B
iodegradation Products
N
ot available

B
iodegradation Products (Toxicity)
N
ot applicable

R
emarks on Environment
D
ue to the product's composition, particular attention must be taken for
t
ransportation and storage. Protect from rain because the run-off water will
b
ecome acidic and may be harmful to flora and fauna.

H
ODS and COD
N
ot available

S
ECTION 13. DISPOSAL ARRANGEMENTS

W
aste Disposal
C
leaned-up material may be an hazardous waste on Resource Conservation and
R
ecovery Act (RCRA) on disposal due to the corrosivity characteristic. DO NOT
f
lush to surface water or sanitary sewer system. Comply with Federal, State,

a
nd local regulations. If approved, neutralize and transfer to waste
t
reatment system.

S
ECTION 14. TRANSPORT INFORMATION

T
DG (Pictograms) CLASS 8 Corrosives
P
IN UN1830 SULFURIC ACID PG II
S
pecial Provisions (Transport) None

S
ECTION 15 OTHER REGULATIONS

O
ther Regulations
D
OT (U.S.A.)/IMO
P
roper Shipping Name SULFURIC ACID
H
azard Class 8
U
N No. 1830
D
OT/IMO Label CORROSIVE
P
acking Group II
R
eportable Quantity 1000 lbs (454 kg)
S
hipping Containers Tank Cars, Tank Trucks, Vessel

E
U (Directive 67/548/EEC) :
S
ulfuric (Acid) : Annex I Index number : 016-020-00-8 ; EU Consolidated
I
nventories : EC Number 231639

C
ANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA) : On the Domestic Substances
L
ist (DSL) ; Acceptable for use under the provisions of CEPA.

C
ERCLA Section 103 Hazardous substances (40 CFR 302.4) ; SARA Section 302
E
xtremely Hazardous Substances (40 CFR 355) : Yes ; SARA Section 313, Toxic
C
hemicals (40 CFR 372.65) ; US: TSCA Inventory : Listed :

S
ulfuric (Acid) (Final RQ) 1 000 pounds (454 kg)

S
ulfuric Acid is subject to reporting requirements of Section 313, Title III
o
f the Superfund Amendments and Reauthorization Act of 1986 (SARA), 40 CFR
P
art 372.

Certain companies must report emissions of Sulfuric Acid as required under The Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA), 40 CFR Part 302

For more information call the SARA Hotline 800-424-9346.

Strong Inorganic Acid Mists Containing Sulfuric Acid : Chemical listed effective March 14, 2003 to the State of California, Proposal 65.

Sulfuric Acid is a Class B Drug Precursor under Health Canada's Controlled Drugs and Substances Act and Precursor Control Regulations.

U.S. FDA Food Bioterrorism Regulations : These regulations apply to Sulfuric Acid when being distributed, stored or used for Food or Food Processing.

Classifications HCS (U.S.A.)
Dangerous may cause cancer
Corrosive liquid

Classifications DSCL (EEC)
R35- Causes severe burns
R8- Contact with combustible material may cause fire
S26- In case of contact with eyes, rinse immediately with plenty of water and seek medical advice S30- Never add water to this product
S36/37/39- Wear suitable protective clothing, gloves and eye/face protection
S45- In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

NFPA (National Fire Protection Association) (USA)
Health: 3
Fire Hazard: 0
Reactivity: 2

NPCA-HMIS Rating
Health: 3
Fire Hazard: 0
Reactivity: 2

S
ECTION 16. OTHER INFORMATION

R
eferences
-
TLVs and BEIs (2006). Based on the Documentation of the Threshold Limit
V
alues for Chemical Substances and Physical Agents & Biological Exposure
I
ndices. ACGIH, Cincinnati, OH 2 http://www.acgih.org
-
CCOHS (2006) - Canadian Centre for Occupational Health and Safety 2
h
ttp://www.ccohs.ca/
-
CSST (2006) - Commission de la Sante et de la Securite du Travail (Quebec).
S
ervice du repertoire toxicologique - http://www.reptox.csst.qc.ca/
-
HSDB (2006) - Hazardous Substances Data Bank. TOXNET. Network of databases
o
n toxicology, hazardous chemicals, and environmental health. NLM Databases &
E
lectronic Resources, U.S. National Library of Medicine, NHI, 8600 Rockville
P
ike, Bethesda, MD 20894 - http://toxnet.nlm.nih.gov/cgi-bin/sis/htmlgen?HSDB
-
IARC - Monographs on the Evaluation of Carcinogenic Risks to Humans
(
collection) - http://www-cie.iarc.fr/ - Merck Index (1999). Merck & CO.,
I
nc, 12th edition
-
NIOSH U.S. (2006) - Pocket Guide to Chemical Hazards 2
h
ttp://www.cdc.goviniosh/npg/
-
North American Emergency Response Guidebook Documents (2004), Developed by
t
he U.S. Department of Transportation, Transport Canada, and the Secretariat
o
f Communications and Transportation of Mexico - Patty's Industrial Hygiene
a
nd Toxicology, 3rd Revised Edition
-
Reglement sur les produits conmiles (Canada)
-
RTECS (2006). Registry of Toxic Effects of Chemical Substances, NIOSH, CDC
-
Toxicologie industrielle & intoxication professionnelle, 3e edition,
L
auwerys

G
lossary
C
SST : Commission de la Sante et de la Securite du Travail (Quebec).
H
SDB : Hazardous Substances Data Bank.
I
ARC : International Agency for Research on Cancer.
N
IOSH : National Institute of Occupational Safety and Health.
N

TP : U.S. National Toxicology Program.
R
TECS : Registry of Toxic Effects of Chemical Substances

B
ecause of its corrosive characteristics and inherent hazards, Sulfuric Acid
s
hould not be used in sewer or drain cleaners or any similar application;
r
egardless of whether they are formulated for residential, commercial or
i
ndustrial use. Vendor will not knowingly sell sulfuric acid to individuals
o
r companies who repackage the product for sale as sewer or drain cleaners,
o
r any other similar use.

-
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DURING BUSINESS HOURS, PACIFIC TIME (425)889-3400
-
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D
AMAGES.**

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BTAINED FROM YOUR LOCAL UNIVAR SALES OFFICE.

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UFFICIENCY. CONDITIONS OF USE ARE BEYOND UNIVARS CONTROL AND THEREFORE USERS
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D
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P
ROCESS.

* * * E N D O F M S D S * * *

{

002 02/02/07 CARUS UPZ 989

****
PRODUCT IDENTIFICATION
****

PRODUCT NAME: CARUS UPZ 989

MSDS#: 64633

DATE ISSUED: 07/19/2002

SUPERSEDES: NEW

ISSUED BY: 008237

This MSDS was reviewed on 02/02/2007, and is current as of the DATE ISSUED above.

MATERIAL SAFETY DATA SHEET

Information: 815-2234500 Emergency: 800-435-6856 CHEMTREC: 800 424-9300

I. IDENTIFICATION

PRODUCT NAME:	CARUS UPZ(TM) 989	REVISION DATE:	07/19/2002
CHEMICAL NAME:	Liquid Proprietary Acidic Zinc Phosphate	FORMULA:	Proprietary
SYNONYMS:	None	PACKING GROUP:	III
D.O.T. HAZARD CLASS:	Corrosive	UN NO. 3264	CAS NO. NA CAS NAME NA
D.O.T. SHIPPING NAME:	Corrosive liquid, acidic, inorganic, n.o.s. (Phosphoric acid)		

II. PHYSICAL DATA

PHYSICAL STATE:	Clear, odorless liquid
SPECIFIC GRAVITY:	1.46
pH:	<2
BOILING POINT C .:	NA
SOLUBILITY IN WATER. WT. %:	Soluble in all proportions.
FREEZING POINT, C:	NA
VOLATILES %:	NA
VAPOR PRESSURE AT 20 c. Mm Hg:	NA
EVAPORATION RATE:	NA

III. HAZARDOUS INGREDIENTS GREATER THAN 1%

MATERIAL	PEL	TLV	CAS.NO.
Zinc Phosphate	No Data	No Data	7779-90-0
Phosphoric acid	1 mg/m3	1 mg/m3	7664-38-2

This product contains toxic chemicals (as listed above) subject to the reporting requirements of Section 313 - Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

CARCINOGENICITY: Not listed by NTP, IARC, or OSHA

IV. FIRE AND EXPLOSIVE HAZARD DATA

FLAMMABILITY: Non-flammable.

NORMAL EXTINGUISHING AGENT:
Dry chemical, carbon dioxide, water spray or foam

SPECIAL FIRE FIGHTING PROCEDURES: Not applicable.

USUAL FIRE AND EXPLOSION HAZARDS: None known.

V. REACTIVITY DATA

STABILITY: Stable.

CONDITIONS TO AVOID:
Avoid contact with metal. May form flammable hydrogen gas.

INCOMPATIBILITY (materials to avoid):
Aluminum, zinc, mild steel, strong caustic solutions.

HAZARDOUS COMBUSTION / DECOMPOSITION PRODUCTS:
May liberate zinc or phosphorus oxides if involved in fire.

VI. HEALTH HAZARD DATA

ACUTE EFFECTS OF EXPOSURE

INGESTION:
May cause irritation or burning to mouth and throat.

SKIN CONTACT:
May cause redness, pain, and severe skin irritation.

INHALATION:
Mist or vapor inhalation may cause irritation to nose, throat and upper respiratory tract. Severe exposures can lead to chemical pneumonitis.

EYE CONTACT:
Corrosive. May cause redness, pain, burns and permanent eye damage.

CHRONIC EFFECTS OF EXPOSURE:
No specific information.

OTHER HEALTH DATA:
May aggravate pre-existing skin, eye or respiratory disorders.

EMERGENCY AND FIRST AID PROCEDURES

INGESTION:
Burning of mouth area may be reduced or eliminated through continued rinsing with water. Do not induce vomiting. Drink large quantities of water. Consult a physician.

SKIN:
Remove contaminated clothes. Flush exposed area with water. Rinse thoroughly. Consult a physician.

INHALATION:
Remove to fresh air. If not breathing, give artificial respiration. Consult a physician.

EYES:
Flush eyes with copious amounts of water for at least 15 minutes. Consult a physician.

VII. SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:

Contain and recover spills. Neutralize with alkaline material such as soda ash, lime and then absorb with an inert material such as vermiculite or dry sand and place it in a chemical waste container for proper disposal. Do not return spilled material to the original container. Do not flush to sewer.

If releases to environment are in CERCLA reportable quantities, report to the required agencies.

WASTE DISPOSAL METHOD:
Disposal of all materials shall be in full and strict compliance with all federal, state, and local regulations pertaining to the materials listed in Section III of this MSDS.

VIII. SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION:
Approved NIOSH/MSHA mist respirator.

PROTECTIVE GLOVES:	Chemical resistant.
EYE PROTECTION:	Chemical safety goggles.
VENTILATION:	Well-ventilated area.
SPECIAL EQUIPMENT:	Impervious apron, eyewash fountain, safety shower.

IX. SPECIAL PRECAUTIONS

HANDLING AND STORAGE:
Store in cool, dry place. Do not store in metal containers. Use HDPE, rubber lined metal containers or 316 stainless steel containers designed for phosphoric acid.

HMIS RATING:
Health: 2 (Moderate Hazard), Flammability: 0 (Will not burn), Reactivity: 0 (stable), Personal Protection: H ((Splash goggles, gloves, apron, vapor respirator).

Chithambarathanu Pillai (S.O.F.)
Division of Carus Corporation
315 Fifth Street
PO Box 599
Peru, IL 61354
Tel (815) 223-1500
Fax (815) 224-6697

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* * * E N D O F M S D S * * *

022 09/11/07 LIQUICHLOR/SODIUM HYPOCHLORITE 9-16%

PRODUCT NAME: LIQUICHLOR/SODIUM HYPOCHLORITE 9-16%

MSDS NUMBER: OX622680

DATE ISSUED: 09/11/2007

SUPERSEDES: 01/23/2006

ISSUED BY: 008546

****
****

MATERIAL SAFETY DATA SHEET

SECTION I IDENTIFICATION

Distribution:
UNIVAR USA
17425 NE Union Hill Road
Redmond, WA 98052
425-889-3400

TRADE NAME:	LIQUICHLOR/SODIUM HYPOCHLORITE 9-16%
CHEMICAL NAME:	Sodium Hypochlorite
FORMULA:	NaOC1
DOT SHIPPING NAME:	Hypochlorite Solution
DOT HAZARD CLASS:	8
UN/NA NUMBER:	UN 1791
DOT LABEL:	Corrosive
DOT PLACARD:	Corrosive
PACKING GROUP:	III
REPORTABLE QUANTITY:	Sodium Hypochlorite: 100 Pounds/45.4 Kilograms
CAS NUMBER:	7681-52-9
NFPA DESIGNATION:	Health 3 Fire 0 Reactivity 1
HMIS DESIGNATION:	Health 3 Fire 0 Reactivity 1

SECTION II - HAZARDOUS INGREDIENTS

MATERIAL	% BY WEIGHT	CAS NO.	OSHA PEL	ACGIH TLV
Sodium Hypochlorite	9-16	7681-52-9	N/A	N/A
Sodium Hydroxide	0.1-2.0	1310-73-2	2mg/m3 ceiling	2mWm3 STEL /CEIL(c) ceiling
Inert Ingredients	Balance	N/A	N/A	N/A

CARCINOGENICITY STATUS: NTP - No, IARC - No, OSHA - No.

SECTION III - PHYSICAL DATA

APPEARANCE:	Yellow-green liquid
BOILING POINT:	219 deg F (104 deg C) for 12.5% NaOC1 by wt.
FREEZING POINT:	- 11 deg F (- 24 deg C) for 12.5% NaOC1 by wt.
ODOR:	Chlorine
pH:	12.5 - 13.5 s.u. @ 25 deg C
VISCOSITY (Cs):	2.15 @ 23 deg C for 12.5% NaOC1 by wt.
% VOLATILE BY VOLUME:	Variable water plus products of decomposition
SOLUBILITY IN WATER:	Complete
SPECIFIC GRAVITY (Water----1):	1.196 @ 20 deg C for 12.5% NaOC1 by wt.
VAPOR DENSITY (AIR=1):	Not available
VAPOR PRESSURE (mm Hg):	Variable water plus products of decomposition

SECTION IV - FIRE AND EXPLOSION DATA

FLASH POINT (Test method): Not applicable

AUTO IGNITION TEMPERATURE: Not applicable

FLAMMABLE LIMITS IN AIR (Volume %): Not applicable

EXTINGUISHING MEDIA: Flood with water or carbon dioxide (CO_2)

SPECIAL FIRE FIGHTING PROCEDURES: Use National Institute of Occupational Safety & Health (NIOSH) approved respirator with acid type canister or use self-contained breathing apparatus. Unusual fire and explosion hazards: material is a strong oxidizer. Contact with combustibles may initiate or promote combustion. Acid and heat accelerate decomposition. Decomposition products may include chlorine.

SECTION V - HEALTH HAZARD INFORMATION

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE
No medical conditions are known to be aggravated by exposure.

ROUTES OF EXPOSURE

INHALATION: Fumes from spills can cause severe irritation and chemical burns to the nose, throat, and lungs. Very little hazard from properly stored solution.

SKIN CONTACT: Severe irritant, reddening of skin, can cause chemical burns to skin.

SKIN ABSORPTION: Same as skin contact.

EYE CONTACT: Severe irritant, corrosive, can severely burn eyes.

INGESTION: Causes irritation of membranes of the mouth, throat, and stomach pain and possible ulceration. LD50 (oral, rat) for 12.5% $NaOCl$ is approximately 5 g/kg body weight.

EFFECTS OF OVEREXPOSURE

ACUTE OVEREXPOSURE (see Routes of Exposure above)
SWALLOWING: See "ingestion" under routes of exposure.

SKIN CONTACT: severe Irritant, reddening of skin, skin damage, chemical burns.

INHALATION: Fumes from spills are very irritating to mucous membranes.

EYE CONTACT: Extreme irritant, corrosive.

CHRONIC OVEREXPOSURE (see Routes of Exposure above)
EYE: Can cause damage.
SKIN: Can cause damage, chemical burns.

EMERGENCY AND FIRST AID PROCEDURES

IF ON SKIN OR CLOTHING: Take off contaminated clothing rinse skin immediately with plenty of water for 15-20 minutes; call a poison control center or doctor for treatment advice.

IF IN EYES: Hold eye open and rinse slowly and gently with water for 15-20 minutes; remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye; call a poison control center or doctor for treatment advice.

IF SWALLOWED: Call poison control center or doctor immediately for treatment

advice; have person sip a glass of water if able to swallow, do not induce vomiting unless told to do so by the poison control center or doctor, do not give anything by mouth to an unconscious person.

IF INHALED: Move person to fresh air; if person is not breathing. call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible; call a poison control center or doctor for further treatment advice. Have the product container or label with you when calling a poison control center or doctor, or going for treatment.

SECTION VI - REACTIVITY DATA

CONDITIONS CONTRIBUTING TO INSTABILITY
Solutions are fairly stable in concentrations below 10%. Stability decreases with concentration, heat, light, exposure, decrease in pH, and contamination with heavy metals, such as nickel, cobalt, copper, and iron.

INCOMPATIBILITY
Acids, alcohols, amines, ammonia, chlorinated isocyanurates, combustibles, cyanides, detergents, ethers, hydrocarbons, oxidizable materials, reducing agents. Corrosive to most metals .

DECOMPOSITION PRODUCTS
Hypochlorous Acid (HOC1), chlorine, hydrochloric acid. Composition depends upon temperature and decrease in pH. Additional decomposition products, which depend upon pH, temperature and time, are sodium chloride, sodium chlorate and oxygen.

CONDITIONS CONTRIBUTING TO HAZARDOUS POLYMERIZATION
Will not occur.

SECTION VII - SPILL OR LEAK PROCEDURES

IN THE EVENT OF A TRANSPORTATION EMERGENCY, CALL CHEMTREC: (800) 424-9300

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED
Cleanup personnel must wear proper protective equipment (See Section VIII). Contain in diked area. Neutralize with sodium bisulfite or ferrous salt solutions. Place neutralized material in DOT specification approved container(s). Flush area with large amounts of water. Comply with all Federal, State and Local reporting requirements.

WASTE DISPOSAL
Contact Federal, State, County, and Local environmental regulators for guidance regarding proper disposal .

RCRA: Test waste material for corrosivity, D002, prior to disposal.

SECTION VIII - SPECIAL PROTECTION INFORMATION

VENTILATION REQUIREMENTS: Local exhaust is recommended.

SPECIFIC PERSONAL PROTECTIVE EQUIPMENT
RESPIRATORY: Use National Institute of Occupational Safety and Health (NIOSH) or Mine Safety and Health Administration (MSHA) approved respirator appropriate for this product when permissible exposure limits are exceeded.

EYES: Use chemical goggles and face shield.

GLOVES: Use chemical resistant rubber, plastic, or neoprene gloves.

OTHER: Use chemical resistant splash apron and boots. Safety shower and eye wash fountain should be located nearby.

SECTION IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING
DANGER: This product is corrosive and may cause severe skin irritation or chemical burns to broken skin. Causes eye damage. Do not get in eyes, on skin or on clothing. Wear goggles and face shield and chemical resistant gloves when handling this product. Wash after handling. Avoid breathing vapors. Vacate poorly ventilated areas as soon as possible. Do not return until odors have dissipated.

PROPER STORAGE AND DISPOSAL REQUIREMENTS
Store this product in a cool, dry area away from direct sunlight and heat to avoid deterioration. In case of spill, flood areas with large quantities of water.

Disposal for domestic use: Do not reuse container. Rinse thoroughly before discarding in trash. Disposal for all other uses: Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

Do not contaminate water, food, or feed by storage, disposal or cleaning of equipment. Store in an upright position!!!

OTHER PRECAUTIONS

STRONG OXIDIZING AGENT: Mix only with water according to label directions. Mixing this product with gross filth such as feces, urine, etc., or with ammonia, acids, detergents or other chemicals may release hazardous gases irritating to eyes, lungs and mucous membranes.

SECTION X REGULATORY STATUS INFORMATION

This product is listed in the Toxic Substances Control Act (TSCA) Inventory Of Chemical Substances.

Manufactured in Accordance with AWWA Standard for Hypochlorites, AWWA B300-99.

SARA Title III Extremely Hazardous Substance: No

SARA Title III Toxic Chemical: No

SARA 311/312:
Acute Hazard, Chronic Hazard, Fire Hazard, Reactivity Hazard

EPA CLEAN AIR ACT: This product does not contain nor is it manufactured with Ozone depleting substances.

Super fund Reportable Discharge = 100 pounds (100% NaOCl)

CERCLA Hazardous Material: Yes

California Proposition 65: No

---------- FOR ADDITIONAL INFORMATION ----------
CONTACT: MSDS COORDINATOR UNIVAR USA INC.
DURING BUSINESS HOURS, PACIFIC TIME (425)889-3400
---------- NOTICE ----------

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COMMONWEALTH OF VIRGINIA

COUNTY of CHARLES CITY

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MICHAEL L. HOLMES, MEMBER

INTERIM COUNTY ADMINISTRATOR

JACQUELINE M. WALLACE

October 18, 2007

RECEIVED
OCT 23 2007
PRO

Denise M. Mosca
Environmental Specialist II
DEQ Piedmont
4949-A Cox Road
Glen Allen, VA 23060

RE: Waiver Request for Testing of Parameters for Re-Issuance of VA0085936, Mt. Zion & Rustic Water Treatment Plant

Dear Ms. Mosca,

Per our discussion and your e-mail of October 12, 2007 I request waiver of testing as described in the VPDES Permit Manual, dated June 2004, Water Treatment Plants 5.b. found on page IN-164 and IN-165.

I assumed that DEQ would grant waivers for Form 2C section 5 part A, Items a, b, c and e, as was granted in DEQ letter dated 24 April, 2002 as there has been no change in process or quality of groundwater processed through the R/O system. I apologize for not realizing that I must formally request waiver of those items again and do request that waiver at this time.

At the time of the last permit re-issuance there was no formal guidance for R/O plant discharges. That appears to have changed with the issuance of the June 2004 Permit Manual which included short guidance on requirements for R/O plants.

I appreciate your aid in allowing me a chance to read and digest that guidance.

On October 23, 2007 I plan to take samples of TSS, and per 5.b(3) since I have no recent data I will take tests for Cadium, Chromium, Copper, lead, Mercury and Zinc. Per the guidance I request that they be dissolved.

I will respond to the rest of the requests of your e-mail of October 12, 2007 before the requested date of October 29, 2007.

Please call me if you have any questions or further guidance.

Sincerely,

John F. Miniclier, Jr.
Director of Public Works

P.O. Box 128 Charles City, Virginia 23030
(804) 652-4701 Fax (804) 829-5819

MEMORANDUM

DEPARTMENT OF ENVIRONMENTAL QUALITY
Piedmont Regional Office

4949-A Cox Road, Glen Allen, Virginia 23060 804/527-5020

TO: Curtis Linderman, PRO Water Permits Manager
FROM: Denise Mosca, PRO Environmental Specialist II
DATE: November 27, 2007
SUBJECT: Request for Application Waiver - Mt. Zion and Rustic WTP VA0085936
COPIES: File

Facility Description:
Mt. Zion and Rustic WTP discharges to a wetland located about 25 ft. from the tidally influenced Morris Creek in Charles City County, Va. This facility utilizes a reverse osmosis (R.O.) system to provide drinking water for the Mt. Zion and Rustic neighborhoods. Unchlorinated well water is used to backflush the system. The discharge flow is 9,000 gpd. The discharge is piped about a mile from the treatment plant to the stream.

Waiver Request:
The permit manual lists minimum testing requirements for water treatment plants. It states that the applicant may request and be granted a waiver for all but the flowing parameters: Part A: TSS, Flow, pH. and Part B: (specifically for R.O.facilities) must provide test results for radioactivity and other parameters believed present; Part C: In addition to those parameters believed present, in the absence of information showing conclusively that the following metals are absent, the applicant must test for cadmium, chromium, copper, lead, mercury and zinc. In addition, for R. O. facilities, TDS should be provided with the application information.

This waiver was granted for all but the minimum testing requirements during the previous permit reissuance. The applicant has requested by letter of October 18, 2007 that the waiver also be granted for this current reissuance. However, with his application submittal dated November 9, 2007, data were provided for Part V.A.1.a (BOD); A.1.b (COD); A.1.c (TOC); A.1.d (TSS); A.1.e (NH3); A.1.f (flow) A.1.i (pH). Missing from this submittal were the winter and summer temperatures in Part V.A.1.g and h. A winter temperature may be easily obtained now when additional samples are taken, so it is recommended that this waiver only address the summer temperature.

It is possible to draft the permit without this summer temperature using a conservative default value. This procedure may result in the permittee receiving a limit for at least one parameter. Because this permit has been expired since September 2, 2007 and it is unlikely that the permittee will be able to obtain this data in the near future, I recommend that this waiver be approved.

Approved: Summer temperature, for this permit cycle only.

_____ 2/21/08 Date

AND SHALL UNDER NO CIRCUMSTANCES BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES.**

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* * * E N D O F M S D S * * *